Items:	Tech Time in Minutes	Est. Down Time in Minutes
50 amp Correctors	971	468
60 amp Correctors	60	0
150 amp tq Suncraft	212	609
150 amp IR Suncraft	50	0
300 amp IR Suncraft	20	109
Dynapower	453	814
Gamma-T	225	165
Housekeeping Power Supplies (HKPS)	N/A	N/A
Ice Team Reports	190	0
Main Power Supplies, Building 1004B	1171	1633
Quench Protection Assemblies (QPA's)	465	361
6KA Quench Switches, Building 1010A	692	190
UPS Battery Replacement	N/A	N/A
Sextupole; Bruker Supplies	235	333
Snake and Spin Rotators Power 10	80	473
Maintenance Records & Miscellaneous	5700	6546
Total Minutes:	10524	11701
Total Hours:	175.4	195.02
Total Days:	7.31	8.13

Date	Time In	I-dent	S/N- Removed	New S/N	Alcove	Rack	Initial Analysis Performed Tripped, reset so will monitor for now.	Final Cause	Fault ID	Tech Time in Minutes	Est. Down Time in min.
3-Dec	10:20:10	bi12-qs3	\vdash	 	1A	1	Tripped, reset so will manitor for now.	Reset s/n 126 Replaced defective OPTO 404, standby command on the rear panel digital board.	Error	0	Non-Physic
8-Dec	16:40:00	yi7-octd	126	650	7C	4	Will not go into standby in remote.	(Component Type: CNY17 Opto-coupler)	Error	55	Non-Physi
9-Dec	16:13:05	yi11-av14			11C		History: would fail on Standby-Error several times -4X on Dec 7 and 2X on Dec 8. Fur on the list, opportunity allowed for replacement on Dec 9.	sin 298 Removed C823 in the Under Voltage lockout circuit located within the WRPS, part of the ICBGS circuit. Over Tele for weeks! Supply still would fail so Tesh report ±72.648. Replaced R58 & C56 of the FCCS Board, cleaned the current service head and making pine, added 1% resistent to IC736 (pin 1 to pin 8 (4-dxt)) and disabled the Under Voltage circuit as per current method (P. Kuzt).			
9-Dec	16:13:05	y111-0/14		309	"			per current metrod (R. Kutz)	Enor		Non-Physi
11-Dec	0:44:29	yi2-av14			34	6	MCR: RHIC corrector power supply yi2-vi14 tripped and was reset remotely. Snapshot indicated AC Power, Standby, Remote. However, the plot indicates that the supply had gone to the Off state. There is a quastion as to the data at the top of the SP flot as to which is correct. Don Bruno to look into further with Controls.	Reset	Error	0	Non-Physi
12-Dec	65220	bi4-tv4			5A	5	Tripped on error signal (4X) during the following times (05:35:25, 06:03:22, 06:13:05 and 06:52:20. Had gone to Off (1X) at 05:38:57 not because of a error fault but because it was told to do so from an exercise. Due to MEPS up to the told to the control of the	Ruf to 2-Jan @ 16.25.09	Error		Non-Physi
12-Dec	13:24:58	bo10-tv11	87	655	11A	5	Constitution South International Conference on the Conference of Conference on Confere	Ref to 2-Jan @ 18:25:09 s/n 667 has been modified by lifting pin 5 of IC- 6058 from ground and putting it onto the junction of R809 and D805 (pin 2 off IC-805A. Part of the undervoltage circuit) Replaced	Error	75	Non-Physi
22-Dec	Maint	bo3-th8	563	656	9C	5	Tripped once on Dec 20 at 22:09:32 Stby-Error and continued multiple times on Dec 21 from 01:54:17 to 06:41:02. Possibly	rectors and Debts (par 2 of 16-905A. Plant of the undervollage circuit) Replaced \$15.55 Ran fine on the bench. HKPS modified, cut land on (160056 pin 8 to (1603 oc. (+16v reg). Installed 1-Jul cap between (16058, pin 8 and ground (bypass). Ran overnight @ 20 amps the +4- 50 amps the following morning. Checks good, 12-31- 03	Error		Non-Physi
							caused by the under-vehilage circuit. Don Bruno: snapshot shows the current and voltage taking off on the initial stip which was an oventimp fault. The other trips after that also shows the setpoint (not the wild) taking off and than the p.a. trips on an error and DCOC. (8:23.01, 8:33.28, 7:12.32, 7:29.43 into local for swaps out. Last that eventing, snapshot shows at 18.17.35,	sin 245 Shorted by-pass cap C501 on the convener board loaded down the +18 on the hips taking down	Overcurrent/		
28-Dec	6:19:31	bi8-sh11	245	126	9A	5	social for oway out. Laber find venering, singipions of shows at 1's 1's 30, ownering, error signal 3, Tripped of 6 on an error signal fault triecia at 10.06.50 & 10.01.24.0. D. Tripped of 6 on an error signal fault triecia at 10.06.50 at 10.01.24.0. D. Bruno aslak MRC sustampt to turn on again, supply immediately trips upon trying to ramp the supply to its filterips sepoid. At 12:14. P. Plat complicios her work with the lasen. Reamy down for accessa in RHIC to septace supply, 13:42. Machine serup resumes. CAS fiscision.	45vdc, affecting all. sin 527 Main Fuses F501 & F502 blown. Replaced and found no other problems. Checked various voltages, all read good. Ran overlight at 420 amps then all of the following day 4/- 50 amps. Checks	Overtemp		
	10.08.59	yi10-th15	527	333	118	2	Tip times of 16:25:09 emor, 17.11:12 error, 17.27:26 error, CAS want into the sunnel to replace the supply as the next two democratings of 16:22 and 19:03, show the supply half been placed into Local. Log in-dicates the following: 17:30: bit-44-ps typeque into Local. Log in-dicates the following: 17:30: bit-44-ps typeque of CAS tisted to their join locally, but inside Don Bruno was contacted. He sit/vised CAS to replace the power supply. CAS crew will come to MCR for access keys, 19:00:10-44-yts psylept.	good 12-30-03. sin 487 Tech Rapair Status: Ran over the night, next monthing supply was still running, no fauts. So, modified by lifting prior of IC-6056 Here ground and putting it onto the junction of R600 and D605 (pin 2 of IC-6056, Pent of the underviolage cross) This has become known by the repair shop as the 'Costarland Option.	Error	88	Non-Physi
2-Jan	10.35.00	bi4-bi4	491	245	5A	5	complexe. This supply had simpled to Standay Error multiple times (Jan 11: 161.716. is 13:00, 162.811. 102.048 and 1952.204. On Jan 12: 063.204. 023.0	"Osterlund Option" ain 491 in Repair (Techs reported slight burn smell)	Error	90	
13-Jan	8.07:48	bo10-th20	525	87	11B	1	Supply tripped twice (8-47-17 and 08-07-48 on a Standby Error.) Will continue to monitor for now as MCR had made no complaints. (Tripped agins in 2014-42 and 111-357 and MCR request to repisce during Mainr at 1600 hours). (Most: Installed during, Jan 13-Maire, win 607 has been modified by thing pins 5 of IC-64058 from ground and putting is certo the junction of R000 and D005 (pin 2 off IC-6 0558.) Part of the undervoltage circuits Replaced.	sin 525 has been modified whereas the unfiltered 21vds supply to IC-8058 has been removed and replaced by the filtered / regulated +18vds from IC- 803, with the addition of a 1,0 or gap on pit 8 of IC- 8058 to Common. (See Rich Kurz for documentation)	Frme	75	Main
27-Jan	Maint	yo1-th18	540	505	18	3	Tripped to standby error - Overvoltage Fault 4X during the early moming shift according to Snapshot at the following times of: 11:509, 12:29, 12:542 at 13:109 before MRR tuned around. They decided to wast until meming before exempting out.	sin 540 No current feedback as a result of a burnt trace from L8 / R34 junction to the feedback coil of the current sensor board. R35 had overheated, causing the damage. Mose: Engineering resulted in changing R35 to a 100hm, the and C38 to a 0.47ut, reducing the current through this filter.	Overvoltage	50	Main
29-Jan	4:14:34	bill-tv2					MCR A physics store was subsequently established, but was aborted due to a beam loss monitor permit interfock caused by the trip of the bib-hz power supply. The supply was immediately turned on again, and we oceaned for a new RI. Alter filling. a new orbivists store was		Over Temp		
20-Jan	7:53:15	bi9-tv2	323	487	sc sc	1	astirened and continues as of the end of the shift. Second top to Off this Run on Chemistry, supply was numery at 35 JiZarges a the time of the labor. Mr. Run ou Shift was allow search target and the shift of the shift was allow search target and the shift of the	has 323 "Shaker Test Station found wife harness challed by the Hash Choke causing the 15 volts or ground, dispring the 15-volts and family be 25 vol. (Chain Reaction) This was regained but further saving macroed to a broken wire on 3550 cassing the 150 vone phase of the 200ks circuit to the 14475. Testinate 11 de Broken Ref 36.4 Cities on the 14475. Testinate 11 de Broken Ref 36.4 Cities on the 14475. Testinate 11 deplacement Paid 5.4 Cities on the 14475. Testinate 11 deplacement Paid 5.4 Cities on the 14475. Testinate 11 deplacement place 10 deplacement placement placem	Over Temp	60	Mair
30-Jan	0.46.08	yi7-th3			7C	4	MCR yi7-th3 tripped during steering for PHENIX, causing loss monitors to put the permit link.	yi7-th3-ps tripped because of a real magnet quench. This happened at 00-46:04. The snapshot shows the voltage and current reacting to the magnet quanching. The beam loss member y7-1nd.2 shows foliadit for about 3 seconds. Don Bruno	Overvoltage		
							Tripped on the Over Temp and was unable to recover, Team wairing for MCR to clase so they can replace the power supply. Brief maintenance by MCR at 1330, Team were in to replace supply she 435. Spare unit of 243 would overvoltage, current & voltage spikes. Supply NQ, replaced with a second supply sin Ct 1 and all	quanching. The beam loss mentar y ² -lm ² , 2 shows Brindliff for slood 3 seconds. Doe Breve sin 455 Overtemp fault was due to a shonted capacitor (OB) on the discipline board that loaded down the +184de from the housekeeping supply. Abor. RSS and CSS on the FOCS was changed, thome seasior to CSS added, p-176 (btds) and disabled the undervoltage circuit as per current membrotic (IDn Res).			
30-Jan 30-Jan	10.56.46	yo1-th12 yo1-th12	435	21	1C	6	is well. Tripped on the Over Temp and was unable to recover, Team waiting for MCN to clair so they can replace the power supply. Brief maintenance by MCR at 1350, Team went in to replace supply site. \$45. Spass unit in 245 would reventling, customst Ayes powers. But you will not seen to see the second supply sin O21 and all is well.	sin 243 Tech Report: Found nothing wrong on the bench, so	Over Temp		
		,,,,,,,					01:10:06 vv8.th2.ne refCurrenthill 1:057 Ames WARNING: 9a.	current method, 4) Modified the 2-5veril circuit. came up with an intCurrentRange Error bocause the stepoint changed much two fast. This p.s. cannot track a seppoint that changes this quickly. The p.s. did not trip to a STPV - ERROR's state but this yelfCurrentRange Error did show up in snapshot. Don	irefCurrentRange		
30-Jan 10-Feb	1:10:06	yo8-th2-ps	195	850	94	3	pod Ad-46 dReaPCumentAr - range error > First tip or Reb at 22.94 Them fripped again on standby-error First tip or Reb at 22.94 Them fripped again on standby-error First tip or 10 at 08.97 A MCR data to resear, no action balen. Another trip laser in the day at 12.42-26 and no supported past hastoy of flashs standby-error or the standby-error or the standby-error s	Jain 195 in Repair	Error	0	g/cc.
							The MCR reports that Bit 4-819-pas is rejoined graded and may have to be replaced. Walking for conformation from D. Brance and access to the ARCH (allows). 15-03 bit 4-92-ph as regioned on an entre fatal. I cannot turn it on and by the because there is a store gaing on the fit products. CAS has the procedure and it is easily to the product of the products and the respective. CAS has the procedure and it is easy. Does thereous 17-22 RHC is at zero to replace bit-1-10 power report. 17-56 CAS is accessing RHC or product me bit-1-10 power report.	ain 529 Tech report: +30volt filter Cap C139, shorted to ground. Replaced with CKBEX105K. Also did C709 mod and adole hatesinise to 1500 t. 500.		80	rodi
21-Feb	13:05:30	bi1-th19	529	447	1B	1	accessing RHIC to replace the bi1-th19 power supply.	C706 mod and added heatsinks to IC501 & 502.	Error		Ь

Inspend by Guyeny 9-Regions

				l				s/n 470 Tech report: Loss of 32volt to FET board,			l
				l				problem found on the Housekeeping supply, shorted C633 filter cap on the +32v Reg output shorted to ground. Replaced with Monolithic capacitor. Also:			l
2-Mar	04.00.00	170.045	470				Tripped on Error signal and was unable to reset. Crew swapped	ground. Replaced with Monotiffic capacitor. Also: Disabled the Undervoltage Circuit and added 1 kohm across IC736 Pin 1 to +5vdc.		١.	
2-Mar	21:09:28	bi8-th15	470	540	96	r,	supply out the next morning during maintenance March 3, 2004 Northing wrong with shi 574 but was replaced for testing of a new modification made to the Flux Caste Current Sensor Board on shi 529, (R35 changed from 10 hm to a 10 ohm, C36 changed from	across IC/36 Pm 1 to +6vdc.	Error		Mant
3-Mar	Maint	bo6-th9	574	529	7A	5		s/n 529, Testing of new Modification	N/A		Maint
-							Nothing wrong with sin 402 but was replaced for testing of a new modification made to the Flux Gate Current Sensor Board on sin				
3-Mar	Maint	y86-tv9	402	491	7A	6	491. (R35 changed from 1ohm to a 10 ohm, C36 changed from 4.7uf to a 0.47uf)	s/n 491, Testing of new Modification	N/A		Maint
							A7. A7 to a 0.47 uf) Nothing wrong with sh 338 but was replaced for testing of a new modification made to the Flux Gate Current Sensor Board on sh 060. (R35 changed from 10 hm to a 10 ohm, C36 changed from				
3-Mar	Maint	yo8-tv17	338	60	98 1A	2	4.7uf to a 0.47uf)	s/n 060, Testing of new Modification	N/A	0	Maint
5-Mar	6:34:09	bi12-qs3	-		1A	1	Tripped to standby error	On Maintenance List (Low Priority)	Error	0	-
15-Mar	3/42/44	yi7-octf	610	DNR	7C	4	Standby Error (Not Real) in Snapshot but when checking the supply, all is well. Possible Node card cable is the cause for the false alarm	Maintenance March 17: Found nothing obvious, replaced Node card cable, tested good.		0	
								s/n 163 Tech report: Replaced R35 & C36 of the FGCS Board, cleaned the current sensore head and			
							Tripped to Standby Error once for this run. Maintenance March 17:	Manthance March 17: Found nothing devicus, replaced Note card cable, issained good. sin 163 Tech report: Replaced R35 & C36 of the FGCS Board, cleaned the current sentone head and making pire, added 1K resistor to IC736 (pin 1 to pin 8 (+5vidc)) and disabled the Under Voltage circuit as			
16-Mar	13:54:24	yo4-th12	163	82	- 5A	6	Repease Supply with sin usz	per current method (R. Kurz)	Error		Mant
				l			5.14; yo-4.112 tripped at 0415; We listed to bring it dack on but it frittipped again while it was sample; MRT be collimation were instructed and the IRs restrience. Peggy, <u>Analysis</u> : Confirmed and supply was swapped out during the morning day shift after braien dumped. Checked magnet connections at the tree (both sides of the riskle), checked for open circle in the magnet (good), as soon as apply searched Sampa with a ramp factor of 30, the apply would				l
		ĺ	İ	l	ĺ		supply was swapped out during the morning day shift after beam	s/n 082 (History: Techs Reported that the IC502 on			l
				l			din rails), checked for open circuit in the magnet (good), as soon as	am dez (missey: lecta responsab sita tita solución the Connenter Card as it was going into Error, no I Output (12-3-03). Techs found Bad solder joint found under T501 (component side of circuit board). Also			l
18-Mar	4:19:39	yo4-th12	82	470	5A	6	supply reached 5amps with a ramp factor of 30, the supply would trip to Standby-Error. (Replaced with s/n 470)	installed a jumper from R503 to Pin 2 of the T501.	Error	90	90
							suppry neutrino Sampa with a namp nation of 30, mis supply would the to Sambay-Fern. (Replaced with in 4 70). The y11-1x03 supply tripped (indicating an error signal) during the down ramp. During this down ramp, the supply samped from 5-63 to 3xno. During this down ramp, the supply went past zero into the possible direction belonder a tripped. I set 12th Tim to part to service signal fault. If it continues to trip we should swap it out. Don locations.				
						ļ	positive direction before it tripped. jak 12:16: This p.s. tripped on an				
19-Mar	11:48:28	yi11-ev20			11B	3	Bruno	Reset	Error		
				İ			Weekend Update: Supply tripped again (Ref to 19-Mar at 11:48:28) Mar-20 at 10:48:36, Mar-22 at 01:22:55 and this morning Mar-22 at 09:45:45 (Supply was precise at Moscotice & supply and a supply at 10:48:45 (Supply was precise at Moscotice & supply and a supply at 11:48:28)	s/n 203, Replaced R35 and C36 to new values.			l
22-Mar	8:49:45	yi11-ev20	203	527	11B		08:49:45. Supply was running at Negative -6 amps and it appears that when the supply was ramped positive is when the supply released. (Replaced with the 5/27)	Cleaned pins and sockets of current sensor head.	Erms		45
zz-Mar	0.49.45	yi11-8/20	203	527	118	3	tripped. (Replaced with sin 527)	Disabled under voltage circuit.	Errof	45	1 4
							Snapshot reveals that the supply had tripped to Standby Error twice this day. First trip at 01:54:28 and the second at 02:33:20. (Will	s/n 458 Tech notes: 1) under voltaged at 192vac. 2) Current Sense			
							this day. First trip at 01:54:28 and the second at 02:33:20. (Will monitor as MCR does not wish to replace it right now) Tripped four more times this day starting at; 11:41:19 then; 12:08:53, 12:11:20	cast basic down +1sr HMPs sais current draw more than double the normal). 3) +18v loads down +21v to +17vdc causing lower under voltr circuit to threshold. 4) Load correlates with sional across R35 & C36.			
23-Mar	23320	bo11-th10	458	652	11C	5	and 12:28:10. Team was dispatched at 12:45 to replace supply. (Replaced with sin 652)	\$\text{sin 458}\$ Tech notes: 1) under voltaged at 192vac. 2) Current Sense card loads down + 18+ HPPS Blass (current draw more then double the normal). 3 + 18+ 18+ text down + 21+ to 17+40 causing load under voltage current voltage control to 18+ 18+ 18+ 18+ 18+ 18+ 18+ 18+ 18+ 18+	Error	45	70
26-Mar	8:15:00	bi5-qs3			5C	1	Relf to 26-Mar, bi5-th3 whereas the cle-5c-ps1 was reset to clear wfg errors.	Reset of cle-5c-ps1 (Radiation)		n/a	45
				l							l
				l			8:12 We lose beam around 5 ciclock at injection bi5-th2 and bi5-on2 has I/O difference em				l
							\$1.50 to be been smooth fixed and the production \$5.00 to exhibit option \$1.00 to the \$1.00 to t				
							stracing an access into the ring. Controls group, W. Full checking it dashed the control to radiation in alcows, it is always good idea to reset fec when there is any problembrusic it 32 bid-full current desemb follow who outside(6 bid-ost), when a settorist of 5A was oliver.				
							current goes to SSA. Most likely a controls issufamilee, Grego Heppner, Don Brund CO. Tom Clifford rebooted die-Sc-pat. Everything looks godfamilee 2:22 Just to clarify - that was a				
26-Mar	8:15:00	bi5-th3		l	5C	2	seesan, not a soft resport. He test you this but it can't full to repeat this" soft respons on clear Wilg problems." AC Resets may cause permit drops." Reset is the right choice for WF problems; on	Reset of de-Sc-co1 (Redistion)		n/a	45
											1
							store and indicated an error signal alarm. Attempts were made to bring the store and indicated an error signal alarm. Attempts were made to bring the surphy on with a very actrosist but the sample trips to standbu-cross when the	No artists taken at this time. Steering ensured to			
30-Mar	420.09	yo4-tv11			54	6	MCB Lore (6e(4)). The york-will supply tripped to standily thering the last store and indicated an error signal alumn. Afterapts were made to being the supply on with a zero supposis, but the supply trip to standily-error when the standily-command is initiated. N. Location has made adjustments in the RH9C Orbit program in order to compensate for this corrector being off.	No action taken at this time, Steering around to continue Physics. On schedule for next Maintenance.	Ermr		
		/22						sin 615 unwarlari C36 and R35 found the HKPS			
2-Apr 1-Apr	Maint 14:04:47	yo4-tv11 bi9-octd	15	338	5A 9C	6	Replaced power supply. Tripped to Standby-Error, first this run.	output ain 044 low so replaced with ain 669. Put on Maintenance list. (Ref: see April 2) sin 228 Tech report: Replaced R35 & C36 of the	Error Error		
		İ	İ	İ		i		mating pins, added 1K resistor to IC736 (pin 1 to pin 8 (+5vdc)) and disabled the Under Voltage circuit as			İ
2-Apr	Maint	bi9-octd	228	458	9C	2	Replaced power supply.	making pins, added 1K resistor to IC798 (pin 1 to pin 8 (+5vdc)) and disabled the Under Voltage circuit as per current method (R. Kurz) sin 257 Tech report: Replaced R35 & C36 of the	Error		
							Tripped to Standby Error 3X this shift starting at 17:41:26, 18:03:27	mating pins, added 1K resistor to IC736 (pin 1 to pin			
4-Apr	17:41:26	bi12-qs3	257	96	1A	1	and then at 22 46 E7. Desiring was made to replace during	8 (+5vdc)) and disabled the Under Voltage circuit as per current method (R. Kurz)	Error	Mains.	Maint
13-Apr	18:06:33	yo12-tv9	363		1A	6	maintenance 4-5-04, as we prepare for the Polarized Proton run. Snapshot reveals that the supply had tripped to Standby Error while running at low current of -0.177 amps.	Put on Maintenance list.	Error		
								s/n 095 Tech Report: Supply would not run above			
				l							i
				l				D115 and D116 blown, replaced Q111. Also sw706 that puts the x100 function into the circuit had been dependent and repend and repend and rependent.			i
							Snapshot reveals the supply tripped to Standby Error while running	Step Mode: 1) Replaced R35 & C36 of the FGCS Roard received the current sensors head and mating			
							Snapshot reveals the supply tripped to Standby Error while running near zero current. Later when supply falled again, MCR was unable to recover and since it ran at zero current, they left the supply Off.	that plus this x100 function into the circuit had opened and needed to be replaced. <u>Mart Four Sten Moris</u> : 1) Replaced R35 & C36 of the FGCS Board, cleaned the current sensore head and making pinc, 2) added 14 resister to 10738 (pin 1 to pin 8 (+5vdc); 3) disabled the Under Voltage circuit as per			
21-Apr	17:35:42	yo5-octl	95	323	5C	4	(April 29, 2004 Scheduled 4 hour maintenance: replaced supply)	current method, 4) Modified the 2.5well circuit.	Error	20	Maint.
∠1-Apr			1	1			14-68: The yo12-th20 supply tripped on an overvoltage indication. Placing the				
21-Apr							suppsy ano standby shows that the tref is -50 amps. D. Bruno was contacted	I			i
A-Apr							and suggested that the supply or the low resolution card should be replaced.				
21-Apr							14.48. The yor2-0.20 supply nipped on an overvoltage indication. Hacing the apply into standard whose that the first i. 50 amps. D. Bezero was constant and suggested that the supply or the low evolution card should be replaced, i.i. 14.58.4. Loaded yor2-0.000 stanget in about 0.00 treat at injection and just its constant of the contract of the contract of the contract of the political contract of the contract of the contract of the contract of the political contract of the contract of the contract of the contract of the political contract of the contract of the contract of the contract of the political contract of the contract of				
	14/08/02	un12.th2h	440		1R	9	gets down to about 0.003mrad along the ramp. So, for now, we can live without this corrector and have it repaired whenever there is a chance. Mei 14:56: In addition, I have compensated the yol7-th20 (using 3-bump) all over	Will Rum as is for now	Over Voltane		
	14:08:03	yo12-th20	440		18	3	and suggested that the supply or the low resolution cand should be replaced, juit 14-84. I chacked syst-24-260 strongs in short Oliterate at Impection and gets down to about Oliterard adong the ramp. So, for now, we can live without this correction and have it impaired whenever them is a fance. Mei 14-56. In addition, I have compensated the yo12-020 (using 3-bump) all over the ramp. VP	Will Run as is for now	Over Voltage		
	14:08:03	yo12-th20	440		1B	3	sjots down to about 0.003mard along the ramp. So, for now, we can live without this correct and have it enjoined whenever them is a chance. Mei 14:5%: In addition, I have compensated the yo12-th20 (using 3-bump) all over the ramp, VP	s/n 647 Tech Report: Couldnot duplicate on the			Time aliment /
30-Apr			440	104	18	3	sjots down to about 0.003mard along the ramp. So, for now, we can live without this correct and have it enjoined whenever them is a chance. Mei 14:5%: In addition, I have compensated the yo12-th20 (using 3-bump) all over the ramp, VP	s/n 647 Tech Report: Couldnot duplicate on the	Current Readback	,	Others with
	14:08:03	yo12-th20 yo12-tv17	440	195	18	3	gets down to about 0.003mrad along the ramp. So, for now, we can live without this corrector and have it repaired whenever there is a chance. Mei 14:56: In addition, I have compensated the yol7-th20 (using 3-bump) all over	s/n 647 Tech Report: Couldnot duplicate on the		60	Others with problems.
30-Apr 3-May	9:00:00	yo12-tv17	47	195	18	3 2	gan durn in short O (Dibund along the range, So, for new, we can low of the state of the range of the range of the range of the range of the range of the range, VP. Corner Readbook appared to be laif of value. Tech reglect the range opposed on the range of the ran	s/n 947 Tech Report: Couldnot duplicate on the	Current Readback half value	60	Others with problems. Time allowed / Others with
30-Apr			440	195	18 18 18	3 3	gan down to should ill Official along the ready. So, for som, we can like 15.60 to Ankline, I There compensate the syst-Table Storing of Samply of some the ready. Y? Control Reading, the control of the state	sin 647 Tech Report: Couldnot displicate on the bench, cleaned all Molex connectors to rear digital and analog boards. ModRed FOCS, 2-59 Red crist Moder Vottage cross, added 14 residents to NC796 liph 1-39, readjoursed O.C. voltage, (Ref = 42.50)*volt One Mez Cardial use talling supply to 50 tal Insignative even with supply off. Once surred on, supply would sail to maximum and tip. Replaced card and tested all to maximum and tip. Replaced card and tested to the control of the control of the control of the control of the maximum and tip. Replaced card and the tested to the control of the control of the tested to the control of the control of the control of the tested to the tested to the tested to the tested to the tested to the tested to the tested to the tested to the tested to the tested to the tested to the tested tes	Current Readback	60	Others with problems.
30-Apr 3-May 3-May	9.00.00	yo12-b/17 yo12-b/20	47	195	18	3	gas down to should GOMmed along the energy See, for som, we can live "Life She Sakiline, I have compensed the yeal" (ADD (ming 3-bump) all over the respect V. Control Raddock appeared to be half of water. Tasks replected the empty and copy saving the V. Control Raddock appeared to be half of water. Tasks replected the empty and copy saving the V. Control Raddock appeared to be half of water. Tasks replected the empty and grows using the V. Tasks replected the empty and proportion of the V. Raddock appeared to the V. Raddock appeared to the V. Raddock appeared to the V. Raddock appeared to the V. Raddock appeared to the V. Raddock appeared to the V. MCR Report 1841-7-prover empty league targong off when a "here to life" or MCR Report 1841-7-prover empty league targong off when a "here to life" or MCR Report 1841-7-prover empty league targong off when a "here to life" or MCR Report 1841-7-prover empty league targong off when a "here to life" or MCR Report 1841-7-prover empty league targong off when a "here to life" or MCR Report 1841-7-prover empty league targong off when a "here to life" or MCR Report 1841-7-prover empty league targong off when a "here to life" or MCR Report 1841-7-prover empty league targong off when a "here to life" or MCR Report 1841-7-prover empty league targong off when a "here to life" or MCR Report 1841-7-prover empty league targong off when a "here to life" or MCR Report 1841-7-prover empty league targong off when a "here to life" or MCR Report 1841-7-prover empty league targong or MCR Report 1841-7-prover empty league targong or MCR Report 1841-7-prover empty league targong or MCR Report 1841-7-prover empty league targong or MCR Report 1841-7-prover empty league targong or MCR Report 1841-7-prover empty league targong or MCR Report 1841-7-prover empty league targong or MCR Report 1841-7-prover empty league targong or MCR Report 1841-7-prover empty league targong or MCR Report 1841-7-prover empty league targong or MCR Repor	sin 647 Tech Report: Couldnot duplicate on the branch, claimed all Moles connectors to rear digital and analog boards. Modified FCDG. 5, 59 Med circuit, Under Voltage circuit, added 47 Kenistors to 12736 (pin 13), asadiquised Co. Voltage, (Fid = 2595Web). Lore Rick Castl was talling supply to go full ringuisties and this supply and Cross borried on, supply records and the supply and could be considered to the control of the country of the co	Current Readback half value Low Res Card	60	Others with problems. Time allowed / Others with
30-Apr 3-May	9:00:00	yo12-tv17	47	195	18	3 3	gan down to should Official adoing the ready. So for some we were like the Conference of the Conferenc	sin 647 Tech Report: Couldnot displicate on the bench, cleaned all Molex connectors to rear digital and analog boards. ModRed FOCS, 2-59 Red crist Moder Vottage cross, added 14 residents to NC796 liph 1-39, readjoursed O.C. voltage, (Ref = 42.50)*volt One Mez Cardial use talling supply to 50 tal Insignative even with supply off. Once surred on, supply would sail to maximum and tip. Replaced card and tested all to maximum and tip. Replaced card and tested to the control of the control of the control of the control of the maximum and tip. Replaced card and the tested to the control of the control of the tested to the control of the control of the control of the tested to the tested to the tested to the tested to the tested to the tested to the tested to the tested to the tested to the tested to the tested to the tested tes	Current Readback half value	15	Others with problems. Time allowed / Others with
30-Apr 3-May 3-May	9.00.00	yo12-b/17 yo12-b/20	47	195	18	3 3	gan dame to a desired d'Alband along the meng-loc for som, we war live l'actificé le qualities. (These camplessand the syst 2-4020 (many 2-banny) all mer liber le qualities. (These camplessand the syst 2-4020 (many 2-banny) all mer liber le meng-loc de la meng-	sin 647 Tech Report: Couldnot duplicate on the branch, claimed all Moles connectors to rear digital and analog boards. Modified FCDG. 5, 59 Med circuit, Under Voltage circuit, added 47 Kenistors to 12736 (pin 13), asadiquised Co. Voltage, (Fid = 2595Web). Lore Rick Castl was talling supply to go full ringuisties and this supply and Cross borried on, supply records and the supply and could be considered to the control of the country of the co	Current Readback half value Low Res Card	90	Others with problems. Time allowed / Others with
30-Apr 3-May 3-May	9.00.00	yo12-b/17 yo12-b/20	47	195	18	3	gan dame to a desired d'Alband along the meng-loc for som, we war live l'actificé le qualities. (These camplessand the syst 2-4020 (many 2-banny) all mer liber le qualities. (These camplessand the syst 2-4020 (many 2-banny) all mer liber le meng-loc de la meng-	sin 647 Tech Report: Couldnot duplicate on the branch, claimed all Moles connectors to rear digital and analog boards. Modified FCDG. 5, 59 Med circuit, Under Voltage circuit, added 47 Kenistors to 12736 (pin 13), asadiquised Co. Voltage, (Fid = 2595Web). Lore Rick Castl was talling supply to go full ringuisties and this supply and Cross borried on, supply records and the supply and could be considered to the control of the country of the co	Current Readback half value Low Res Card	80 15	Others with problems. Time allowed / Others with
30-Apr 3-May 3-May	9.00.00	yo12-b/17 yo12-b/20	47	195	18	3	gas down to should Official along the range. So for some, we can like 150 the Audition. There compensed the year-1-620 (noing 3-bamp) all over the range. VP Control Readbook approach to be beld of the Table replaced the supply and the range. VP Control Readbook approach to be beld of the Table replaced the supply and the readbook approach to be beld of the Table replaced the supply and the readbook approach to be the readbook of the Table replaced the supply and the readbook of the readbook of the readbook of the read- Read for 300 Appr MEX Reports below 2 preserves supply hoursy triping all where a Years for far of "Annual" is insued an assuming the PEC for the 2-or for any counted that any processing the PEC for the 2-or for the read- source of the read- Section 200 Appr	sin 647 Tech Report: Couldnot duplicate on the branch, claimed all Moles connectors to rear digital and analog boards. Modified FCDG. 5, 59 Med circuit, Under Voltage circuit, added 47 Kenistors to 12736 (pin 13), asadiquised Co. Voltage, (Fid = 2595Web). Lore Rick Castl was talling supply to go full ringuisties and this supply and Cross borried on, supply records and the supply and could be considered to the control of the country of the co	Current Readback half value Low Res Card	15	Others with problems. Time allowed / Others with
30-Apr 3-May 3-May 6-May	9.00.00 9.00.00 2.33.47	yo12-br17 yo12-br20 bi8-br2	440	195	18 18	3 3	gan dame to a desired d'Alband along the meng-loc for som, we war live l'actificé le qualities. (These camplessand the syst 2-4020 (many 2-banny) all mer liber le qualities. (These camplessand the syst 2-4020 (many 2-banny) all mer liber le meng-loc de la meng-	sin 647 Tech Report: Couldnot duplicate on the branch, claimed all Moles connectors to rear digital and analog boards. Modified FCDG. 5, 59 Med circuit, Under Voltage circuit, added 47 Kenistors to 12736 (pin 13), asadiquised Co. Voltage, (Fid = 2595Web). Lore Rick Castl was talling supply to go full ringuisties and this supply and Cross borried on, supply records and the supply and could be considered to the control of the country of the co	Current Readback half value Low Res Card	15	Others with problems. Time allowed / Others with

Inspend by Guyeny 9-Regions

50 amp Cornector Power Supply Summary Report

			S/N-	New						Tech Time in	Est. Down Time
Date	Time In	I-dent	Remv	S/N	Alcove	Rack	Initial Analysis Performed	Final Cause	Fault ID	minutes	in min.
20-Jan	21:45:39	bi1-qs3			1C	1	Tripped on Over Voltage, MCR reset		Over Voltage	0	
20-Jan	22.09.44	bi1-qs3			1C		22.52 I looked at bit-quilyes in the snapshots. First it tipped on an own-rollage fault the second sine on a DCDC fault. The waveforms for both trips looked very similar, it doesn't make some that we get 2 different faults. It is in the DFF state now but it it no bus used then CAS about snap; for cl. I will call them and lest them know where the pris is no they are prepared. Don Stato.	eda to	DC Overcurrent	0	
21-Jan	Maint.	bi1-qs3	534	307	1C	1	Ref to 20-Jan 21:40:35 and 22:04:44, supply was swapped out.	all \$54Ran overright with the function generator ramping between ~52 and ~52 areas, no builts found shottless of whereast and millioned 2 risks gappy in C-4000 has been removed and right by the filtered risks galaxied - filtered from IC-400, with the addition 15 and cap on pin 4 of C-4000 to Common, Also added CTOM in 15 and pon pin 4 of C-4000 to Common, Also added CTOM in 15 and hastician added to IC-2001 is 5:00 on the consenter boast. (1c2704)	aced of a	80	Maine
			_		T						1
			Т								

Supand by Gupung 7, Region

Date	Time In	Letons	S/N Removed	S/N Installed	Bldg.	Initial Analysis Performed	Final Cause	Fault ID	Tech Time in	Est. Down
Date		Pusin		- Indiana	Jing.	Last time tripped was March 26, 2003 with the same fault. MCR had	I man cause	T HUN ID	minutes	1
			1			reset and problem did not come back until now. Team replaced supply	Option circuit installed by Suncraft to monitor which		l	l
			1			with s/n #032 (Note: This supply has a blue color front panel, missing an	FET had blown. This circuit is not used and a false		l	l
3-Dec	0:43:29	bo3-196	301	32	1004	ID so we are going to call it S/N 301)	noise signal can trigger this fault to the microprocessor.	Quench, FET	40 min	Non-Physics
			1			Tripped on Quench, FET fault but was able to reset and brought back on	Ref to 3-Dec, 0:43:29, bo3-tq6 (FET Fault modified		l	l
	1		1			remotely by MCR. Don informs that there is no FET Fault and that we	within the power supply installed to prevent this false		l	l
5-Jan	6:17:00	yi10-tq5	17		1010	should monitor for the next trip. Possible loose connection.	alarm from occurring.)	Quench, FET		
	l		1	1		•	l .	1	l	l
			1			refWISDIF of 3.00amps starting at 12.07.11. 13.22.42 and finally at 13.46.53 when CAS took			l	l
						measurements off the fiber optic interface card for Don as he watched psail. "The serpoint then b	ł		l	l
			1			up to match the wfg, I asked him to make sure the card was seated properly and he said it looke also asked him to tap on the fiber optic interface cand. I saw nothing change on peall, I asked him	fine. I		l	l
			1			on the current regulator card but that had no effect either. It looks like something may have been	Menitoring to see if repocurrence of problem. Tech		I	I
11 100	13:46:53	bi9-to4	1		1010	with the fiber optic interface card even though it looks like it was seated properly. I will continue to tribut if it returns we will probably need to awap out this card." Don Siruno	Time to assist with Don; start at 14:20 ended at 14:32	wigRefRange Error	12	I
115000	13.40.33	200-004	 	-	1010		Maint, Jan 13. Replaced Original Control Card with a	Wighter Carry E. Linux	 	
			1				modified version that jumps out the FET fault. (Label		I	I
	l		1	1		Fault has come back more then once on FET, (Jan 9, 11:38:05,	added for this supply use only) (FET Fault modified	1	l	l
40 100	0:41:56	vi10-to5	17		1010	12:24:56, Jan 11 07:27:16 and Jan 12 00:06:10 no data available, 100:41:56 FET Fault.	within the power supply installed to prevent this false alarm from occurring.)	Quench FFT	10	Maint
1.2-Jan	0.41.56	yrru-igs	 '' -		1010	00/41:36 PE Page.	Maint, Jan 13. Replaced Original Control Card with a	Quench, FET	10	Musers.
			1				modified version that jumps out the FET fault. (Label		ļ	ļ.
9-Jan	8:47:19	yo9-196	26	1	1010	FET fault not real, (Jan 9, 8:27:44, 8:45:06 and 8:47:19)	added for this supply use only)	Quench, FET	10	Maint.
						CAS swapped the fuses and they blew again. To make sure it was not			I	
	1		1		i	one of the cards in the 3u control bucket I had them remove all the cards award the control card and the firsts still high. I told them they could be.	i	İ	i	i
			1			use the cards from this 3u control bucket in the new p.s. except the	l		I	I
	l		1	1		control card. They will get a new control card for the new p.s. Once they	•	Power supply link	l	l
			1	-		swap it out they will hand it back over to MCR Don Bruno After they		carrier alarm and	ł	l
45 100	22.54:00	vo12-tq6	65	40	1012	swapped it, supply tripped on Quench Fault. They had forgot to hook up one of the connections.	s/n 65, found blown Housekeeping fuses, replaced and supply has been fine since.	Iref difference	120	167
15-340	22.54.00	yo 12-tqo	-	40	1012	one of the connections.	supply has been the since.	atam.	120	167
	l	I	I		i .	Maintenance day, Jan 21, 2004, Techs removed sin 17 (ref to 12-Jan	Replaced with sin 301 that had been modifyied to		i	i
			1			0.41:56) to modify this supply to jump out the not Real Fet Fault circuit.	correct the FET Fault problem. (See Tom Nolan or Jeff		l	l
21-Jan	Maint.	vi10-to5	17	301	1010	This had been done temporarily by modifying the control card until this could be done.	Wilki as FET Fault modified within the power supply installed to prevent this false alarm from occurring.)	Supply Switch		١.
21-Jan	Maint.	ys10-lqp	17	301	1010	Alarm Log: 1) 23:16:04, loss monitor trip and bi6-tq6 power supply trip to	Installed to prevent this talse alarm from occurring.)	Supply Switch		
			1			the Off state. 2) Feb 27 2004, 00:15:14 bi5-tq5 tripped off again, this	Control Card replaced. Note: Tech shop found nothing		l	l
			1			time at injection. 01:20: Henry and Jay have replaced the controller	wrong with the original control card CAS swapped but	1	l	l
26-Feb	23:16:04	bi5-aq5	6		1006	card and RHIC is ready for injection.	this did solve the problem.	OFF	7	140
27-Feb	0:14:56	bi6-4q6	-6-		1006	Tripped to the OFF state, MCR reset.		OFF		
			1				The current readback to the quench detector was sky		1	l .
			1				high (188A or so). Now I knew the real problem was the		I	I
			1				buffer card (4-20mA) output. It could have also been a		l	l
	1		1			Power Supply tripping at 57amps pulled the quench detector. Snapshot	broken cable from the p.s. to the quench detector or a	1	I	I
			1			comment wfgRefRangeError. CAS replaced the Current Reg card, no	20mA from the n.s. It turned out to be the huffer card		l	l
	16:49:45	bo6-sq5	1		1006	change. Turns out the Buffer card was at fault.	Bruno Buffer Card, U31 failed (4-20ma circuit)	Quench	2	180
1-Mar	1:48:55	bi5-4q5	6		1006	Tripped to the OFF state, MCR reset.		OFF		
			1		ı	Tripped to the OFF state, MCR requested supply be replaced. 12:47:	i	İ	i	i
			1			Tom and Jeff swapped out this p.s. They also noted that the node card	l		I	I
2-Mar	11:21:28	bi6-4q5	6	52	1006	cable D connector was not seated properly on the p.s. Don Bruno	s/n 006 in repair.	OFF	45	122
			T			Local / Remote switch failed indicated local mode when recovering from	Local / Remote Switch indicating Local while in		1	
14-Apr	6:16:00	yo4-tq6			1004B	Quench PR-176. This supply had not tripped but held up TAPE due to its false reading.	Remote. Switch indeed was the fault and was replaced.	Local	15	Non-Physics
14-Apr	6:16:00	yo4-tqti		-	1004B	its tase reading.	replaced	Local	15	Non-Physics
	l	I	I		ı	i e	i		i	i
			1			MCR called that the supply tripped and they were unable to restore. No builts listed on the PS C	entrol		l	l
	1	1	1		i	card except for Quench. Tried to restore and saw that the QLI IN Signal never got through to the Supply would reset and clear with QLO signal but then immediately fail. 1) Controls problem nee	1		i	I
			1			restore at their end as power supply page indicated several faults that were not real in the I/O En			I	I
1	1		1	1	1	Column. 2) Wing was able to manually run the sequence through to turn the supply back on. 3) supply nor QPA at fault as there may be an intermittent signal within one of the D connectors from	Residue loose (Intermittent connection at the QPAIC	1	i	i
			1	-		Quench Detector to the QPAIC to the QPA. Need to bring the Link down to further investigate. It	phassis as the cable tug test at the supply would not	-	ł	l
11-May	13.59.00	bi6-tq4	-		1006	descided to except as is, turned control back over to thinkleppner	cause the supply to trip.	Quench	80	101
1	1		1	1				1	l	1
1	1	1	i .	1	I	I	The AC Adapter that plags into the Surge Protector was intermittent causing the OPA to lose power, replaced adapter.	1	i	i
1	1		1	1	1	I	Note: Adapter is found to be contaminated and others nearby	1	I	I
1	l		1	1		While recovering from a quench event, MCR called and said they could not recover	look the sumw, also the temperature in the service buildings are	L.	l	l
12-May	13:41:00	bi5-aq4	-		1006	this supply from Standby-Error. G. Heppeer	warm, G. Heppner	Quench	15	25
			_		_			+		
			+	+		<u> </u>	 	Time Totals:	307	735
						1				

Francisk by Grapous F. Reposes.

RHIC Physics 2003-2004 150 amp IR Suncraft Power Supply Summary Report

Date	Time In	I-dent	S/N	Bldg.	QLI Ref:		Final Cause	Fault ID	Tech Time in minutes	Link Down Time in min.
						Supply did not trip but under observation, the Iref had				
	l		1			pulses downward causing the current to follow. Tap	Current Regulator Card: Remote Setpoint In (pin 6A	1		1
						checked current reg card and saw lref jump slightly so we	connector) to the K1 relay (pin 1) had an internal broken			
	Į.					replaced the Current Reg card as there had been some	trace within the board. Flex test caused problem to			Time allowed /
	İ		1	1		down time due to a corrector problem. Needed to bring the	become fatal so a wire was soldered external to repair.	i	1	Others with
3-May	9:30:00	bi9-qt2	72	1010A	PR-203	link down in order to swap card.	Tested fine returned to spares.	WtgRetRangeError	50	problems.
	1		1	i	I	Blue quench link trip was caused by 8b-qd1 quench detector. The		I	1	
						quench detector tripped because of a sudden jump in current on bo7-				1
	l		1			qf2-ps. The reference jumped to full current and the power supply	1	1	1	1
7-May	15:23:12	bo7-qf2	L	1010A	PR-210	tried to follow. Ganetis	MCR reset, no further action taken.	Quench		30
			T	1				I		1
ı	i	1	1	1	1	Blue quench link trip was caused by 8b-qd1 quench detector. The	i	i .	1	1
	l					quench detector tripped because the iref: for bo7-qf2-ps jumped up to	1			
ı	i	1	1	1	1	full current. The beam permit tripped .018 sec. before the quench link		1	1	1
						due to beam loss. There were two real magnet quenches at b7q3 and	1			
	l					b8q3. There were high beam losses at b7-lm3.1 and b8-lm3.1. The	i	1	1	1
1						beam loss was due to the p.s. sudden change in current. The fiber				1
12-May	13:16:08	bo7-q/2		1010A	PR-214	optic interface card should be replaced Gasetis	Replaced Fiber Optics card for bo7-qf2-ps.G Heppner	Quench	15	25
										l
	l		l	l	L					
			_					ļ		
			1	1	1	I .	I	Time Totals:	65	1 55

Inspected by Grapmy 9. Mayores

300 amp IR Suncraft Press Sun

										Link Down Time
Date	Time In	I-dent	SN	Bldg.	QLI Ref:	Initial Analysis Performed	Final Cause	Fault ID	minutes	in min.
			l			wfgRefRangeError, Quench, supply shows ematic signatures of Iref, Current, Voltage	1	1		
- 1					ł	way after supply tripped to standby. Appears as if this supply did not turn off but was	ł	1		
5-Dec	1:05:50	y6-q89		1006		following Iref command.	Unknown	Quench		
- 1					ł	Iref appeared to suddenly decrease, causing the current to follow and eventually trip.	ł	1		
1			i	i	i	Possible relay on the current reg card, Tech was ready by the supply as MCR brought	i	i .	i .	
						the link down for a quick repair. Buffer card replaced next and waiting to see if this	l			
- 1						fixed the problem. Odplot indicates that once the supply had tripped, the current had	I	1		
						railed -374amps and stayed there. This is impossible as the supply is only rated at	l			
5-Dec	8:46:12	y6-q89	L	1006	L	300 amps.	Unknown	Quench	10	Non-Physics
			I			wfgRefRangeError, Quench, once again this supply shows erratic signatures of Iref,		T		
- 1			l		I	Current, Voltage way after supply tripped to standby. After supply had gone to	1	1		
17-Dec	4:28:55	y6-q89		1006	ł	standby, the output current railed to -253amps and stayed there.	Unknown	Quench		
							Found the neg 18v2 gitches	T		
- 1					ł		with a large drop out,	1		
1			i	i	i		Replaced the Housekeeping	i	i	i
17-Dec	Maint.	y6-q89	15	1006	ŀ	Replaced power supply with ain 001 due to past fault conditions.	supply fixed the problem.	N/A	0	Maintenance
17-Dec	21:38:07	y6-q89	1	1006		Power supply error message that the refWlgDiff of 6.037 amps		refWfgDiff		
17-Dec	22.09.35	y6-q89	1	1006		Power supply error message that the refWlgDiff of 6.058 amps		refWfgDiff		
							supply was swapped out today			
					l	21:55: y6-q89-ps has a link carrier error, the iref is 0. Most likely this is a problem with	and the fiber optic signal			
17-Dec	22:32:00	y6-q89	1	1006	İ	the connection between wfg and ps. Johannes 22:32:	cables had been reversed.	link carrier error	1	i
			-							
- 1			1	ı	l	yi10-q89 indicated "no ps illegal state" on psall. CAS (Frank and George) went out to	1	i	1	1
						look at the ps and saw the circuit breaker tripped. They turned it back on and I was	l			
- 1						able to bring the link up in that building alone. I was able to run this p.s. to 10A but	i	1		
						did not take it any further. I asked MCR to try and bring the whole vellow link up and	l			
						try to ramp the p.s., in the meantime I will have CAS bring a spare p.s. up to 1010A. I	I	1		
8.Feh	20:08:28	vi10-o89		1010	PR-089	will get them prepared to swap out this p.s. if the circuit breaker trips again. Don Bruno	l	No PS / Illegal State		109
		7110 400	-			MCR reported supply was possible cause for beam fluctuation during ramps. Error				
14-Apr	15:00:00	b8-a89		1008		appeared to be slightly different then b6-o89 that uses the same ramp.	Replaced Current Reg Card	1	10	Non-Physics
			·					†**********		
			-					 		
-			1			<u> </u>	 	Time Totals:	20	109
						<u> </u>		Time Totals.	20	100

Inspend by Grapmy I. Happen

			S/N when						Tech Time in	Link Down Time in min.
Date	Time In	I-dent	replaced	Bldg.	QLI Ref:	Initial Analysis Performed	Final Cause	Fault ID	minutes	Time in min.
						Iref stuck while ramping then shot upwards to 718emps. Voltage rise went to the rail causing the crowber. Current Regulator card was				
4-Dec	10:24:58	b2-dhx	<u> </u>	1002	<u> </u>	swapped out and later it was found to be the K2 relay had faulty contacts. Early, same day at 12:17:36, Blue quench link trip caused by 2b-qd1	Current Reg Card	Quench		Non-Physics
8-Dec	14:13:56	b2-dhx	İ	1002	i	quench detector. The quench detector tripped because of multiple b2- dhx-os current elliches.	Internal 3 channel Isolation Amplifier		İ	Non-Physics
8-Dec	14:13:56	b2-dhx	 	1002	!	14:26 : problems with b2-q7-ps recovering from quench - ops trying to	Board	Quench		Non-Physics
						revive it fulvis. Looking at Tape Log, this supply stopped recovery with a standby error. Nothing on our end, controls looked into the problem.				
9-Dec	14:26:17	t/2-a7		1002		FirReader indicated at 15.25.03 a reboot of cle-2b-ps3 by controls as they suspect memory problem and will monitor.	FEC Reboot (cfe-2b-os3)	Overrh		Non-Physics
						8b-ps1 quench event, power supply produced a DC Overcurrent, Quench				
			l		l	fault. MCR tried to reset during recovery program, supply would fail. CAS	No -15v on J424, found Transformer T402	i		
			l		1	investigated and found that all (-15v) on the cards of the control bucket was missing. They pulled one card at a time to see if a card had a	of the Housekeeping Supply shorted, replaced transformer by borrowing it from		l	
16-Dec	4:27:26	bi8-qf9	980297	1008		shorted bypass cap. None found, they then checked the hkps fuses and found they were good. Tech called in for replacement.	another HKPS with a good Transformer gutted from another blown supply.	DC Overcurrent, Quench	90	287
10-Dec	427.20	0043	300037	1000		Fail on error, preventing quench recovery. Turns out to be faulty	Iguae non anome com supply.	- Common	<u> </u>	1 201
20-Dec	10:30:00	yo9-qd3		1010		Auxiliary Contactor that supplies the on signal to the control card. Auxiliary contactor replaced by CAS.	Auxiliary Contactor replaced	Error	60	60
			l			Upon turn on yi10-qf9-ps had an error fault. The AUX. contacts need to				
31-Dec	5:18:44	vi10-qr9	İ	1010	l	be replaced on the next maintenance day. Ganetis (Note: On maintenance day, Jan 07, Techs replaced faulty auxiliary contactor)	Auxiliary Contactor replaced	Error	ĺ	
JI-Dec	3.10.44	3110-93		1010		Failed to recover after guench recovery program was initiated from	Accounty Contacts repaided	Linui		
1-Jan	20:44:40	bo11-gt8		1012		previous quench event (PR-002). Auxiliary contactor needs to be replaced during Jan 7 maintenance day.	Ref to 6-Jan @ 6:03:00	Error		15
						Blue quench link trip was caused by bo11-q/8-ps when the p.s. was being turned on. The p.s. had an error fault. The Aux. contacts on this p.s. need				
	6:03:00		İ	1012	İ	to be replaced. Ganetis (Note: On maintenance day, Jan 07, Techs			l	10
6-Jan	6:03:00	bo11-qt8	-	1012		replaced faulty auxiliary contactor) The quench detector tripped because of a jump in the current signal in	Auxiliary Contactor replaced	Error	-	10
			l		1	b12-dx-ps. There was not a real change in current signal because there was no change in magnet voltage as seen on the quench detector. There				
						were changes in the voltage signal on the postmonam plots but no corresponding change in magnet voltage. The problem looks like a buffer				
7-Jan	20:46:52	b12-dhX	<u> </u>	1012	PR-025	card problem. Ganetis		Quench		28
			l			The quench detector tripped because of a sudden decrease in the current signal in b12-dx-ps. There were changes in the voltage signal on the			l	
15-Jan	18:31:12	b12-dhX	l	1012	PR-038	postmortem plots and a small change in magnet voltage. There were no real magnet quenches. Ganetis	Ref to 20-Jan @ 14:39:00	Quench		
15-Jan	10:31:12	D12-driA	 	1012	PR-036	[Real to 20-Jan to 14:39:00	Quenos	°	
			l			Blue quench link trip was caused by biti-qd6-ps when the p.s. was being turned on. The p.s. had an error fault. The Auxiliary contacts on this p.s.		1	l	
16-Jan	4:29:36	bi9-qd6	l	1010	PR-040	need to be replaced. (Done) Ganetis (Note: On maintenance day, Jan 21, Techs replaced faulty auxiliary contactor)	Auxiliary Contactor replaced	Frmr		
TOTAL	722.50	Luzqua		1010	71000	T	Accounty Contacts repaided	Linui		<u> </u>
			İ		l	Blue quench link trip was caused by bo10-qd7-ps when it was turned on during quench recovery. The ps did not show an error fault. The problem				
17-Jan	16:51:04	bo10-qd7		1010	PR-043	could be cabling between the OPA and ps. Garnets The quench detector tripped because of a sudden decrease in the current	Unexplained	Quench		18
						signal in b12-dx-ps. There were changes in the voltage signal on the postmortem plots and a small change in magnet voltage. This cause the				
İ			İ		PR-046,	B11DHX and the B12DHX Heaters (all 4) to fire, Real magnet Quench =	Internal 3 channel Isolation Amplifier	1	repaired	
20-Jan	14:39:00	b12-dhX	 	1012	047	2	Board	Quench	during Maint.	31
			l		1		Waits on Feb 4. Electricisms checked all AC power			
						ReadAlamLog: y12-q7 No PS / Illegal State. Yellow quench link trip was caused by 12-q7-ps going to the off state. This is the first time I have	connections from the disconnect on the wall to the main breaker inside the supply. Techs checked AC connection from that point to the housekeeping supply were connect	Į.		
			l		l	seen this type of fault this run. Ganetis (Appears to have Loss of AC		No PS / Illegal	l	
28-Jan	0:14:18	y12-q7		1012	PR-061	Power and will be checked during the next maintenance day. Heppner) Bo3-q/8-ps did not recover, indicating Standby-Error. Most likely the	connections on backside and found all to be in good sha	State		29
			l		1	Auxiliary contactor needs to be replaced as the supply rest on the next				
1-Feb	23:25:40	ba3-qf8	<u> </u>	1004	PR-067	Feb 4, 2004. During Scheduled maintenance, the Auxiliary Contactor had been		Standby-Error		14
		1	l		1	replaced for the following power supplies with an additional relay added		l	l	1
						to the same circuit: b12-dh0, y12-q6, yo12-qd1 and yi11-qf3. b12-dhX only received the additional relay mod as the auxiliary contactor is only a			1	
4-Feb	Maint	Bido. 1012	ļ	1012	N/A	two position type and did not require replacement at this time. (See Don Bruno)	Preventative Maintenance	N/A	150	Mains.
					1		The second secon	T		
						yellow quench link trip was caused by yo0-dh0 ps or opa. The link tripped when the ps was being turned on. The alarm log showed no other fault but a quench fault. The ps did not go into the Off state. A possible cause			1	
6-Feb	22:51:52	yo9-dh0		1010	PR-083	but a quench fault. The ps did not go into the Off state. A possible cause could be problem with the cable between the ps and the gpa. Ganetis	Unexplained	quench		63
		l	1		1	BEAM STUDIES in progress. Ramping of the IR Supplies, Yi6-qF9 tripped on DC Overcurrent. Upon checking the Voltage Rogalator card settings, found that the		1	l	1
11-Mar	9:15:36	yi6-qf9		1006	PR-127	supply was set to trip at 100mps. This Supply with new cards had been replaced prior to the Physics Run and the DCOC was not properly set.	Re-set the supply to trip at 205amps.	DCOC	15	35
						I think this blue Ozench Link Interlock was due to n.s. bi9-af7-os trying to turn on				
25-Apr	20:53:35	bi9-of7		1010	PR-191	and then tripping back to STBY again because of a problem with its aux contacts for ON status. We will put this on our maintenance list to be fixed. Don Brano	Supply was recovered on the next Quench Recovery Try.	Standhu-Franc		25
								Local / No PS/		
3-May	0.42.56	y6-q6	-	1008	PR-202	y8-q6-ps housekeeping p.s. fases blow bringing down the yellow link. Don Brano	HKPS Fuses	Illegal State	138	168
		1				Tem Nolan was called in and he replaced the qpa fan switches for bi4-sq4-qp and yo8 ad1-or. There was a reoblem he investigated with bi4-of1-or which went away on its	-			
		1	i		1	own but we are still investigating this. The problem with bi4-qf1-ps may have been		1	l	1
						a WFG problem because FEC 4b-ps1 was re-booted at 2:15:59 and the problem went away after that. 4b-ps1 was re-booted at 2:15:59 and bi4-qf1-ps probehm went away.				
4-May	2:16:39	bi4-qf1		1004		Possible wfg problem. Don Bruno	FEC Reboot (cfe-4b-ps1)	Fan Fault	0	0
							1	Time Totals:	453	814

Frepand by Grupmy 9-Mappan

Date	Time In	I-dent	Alcove	Rack	Initial Analysis Performed	Final Cause	Fault ID	Tech Time in minutes	Est. Down
8-Dec	6:08:38	yo9-qgt	9C	4	Power supply tripped to the Off state while running at :3amps (Park) for ramp fill #3945, Snapshot revealed that the supply successfully jumped at 21:28:53 and then faulted at 21:30:53 with the following status from the	1	Off	N/A	Non-Physics
10.Dec	21:30:57	Nilson	ec.	,	21:28:53 and then faulted at 21:30:53 with the following status from the	Manipulan	Crowbar	N/Δ	Non-Physics
15-Dec 15-Dec	21:30:57 1:21:08 8:41:04	yo9-qgt yo9-qgt	9C 9C	4	sequencer (Crowbar-Stby-Error) Tripped to the Off state while sitting at Park. Tripped to the Off state while sitting at Park.		Off	N/A N/A	Non-Physics Non-Physics
					Power supply would trip Off. With the supply on, connections were moved,				
		l	İ		chassis tapped for vibration, could not cause supply to fail. Powered down, open unit and re-soldered AC fuse/wire bypass connection as they looked a				İ
			l		Power supply would trip Off. With the supply on, connections were moved, chassis sepact for vibration, could not cause supply to fail. Powered down, open unit and re-distingted National Power by place connection as they locked a little cold. Then reworked connections by removing, clearing, re-screpa and instructed. The reworked connections by removing, clearing, re-screpa and instructions. The cold open and all could not get unit to stal. Replaced all	Possible cold solder joint on the input fuse/bypess wires or			
17-Dec 19-Dec	Maint 11:06:50	yo9-qgt yo9-qgt	9C 9C	4	items and turned on, checked good. Tripped to the Off state white sixing at Park. Replaced Control Card, Digital Isolation Card from the 3U bucket and	slight contamination of the Molex connectors. Unexplained	N/A Off	90 N/A	Maintenance Non-Physics
					Replaced Control Card, Digital Isolation Card from the 3U bucket and replaced the node card cable. Supply was running when team performed maintenance and discovered that the node card cable was loose at the node				
22-Dec	Maint	yo9-qgt	9C	4	maintanance and discovered that the node card cable was loose at the node card chassis.	Node Card Cable	Maint	N/A	Non-Physics
		l							
		l	l		the gamma quad is incorrect. We work to remedy the problem supply, 12:22: We call C. Montag was us on correct the problem with the gamma quads. The quads must be ramped down to zero to have the	and a			l
		l	İ		MCR: We encounter problems with one gamma quait bol-opy so. Sequencer reports that the citizeng he gamma qualit is contract. We send to sensely the problem supply 1-32 W for all C Mortag with on problems of the problems of the contract	Tesse	Unfamiliar with gamma-t jump		
3-Jan	12:46:00	bo3-qgt	3C	2	Checking Snapshot and found that this supply had tripped to Standby, Cap	Operations	procedure	0	
6-Jan	17:29:06	yo9-qgt	9C	4	Overvoltage, Crowber. Iref and Current at the time had been zero.	Unexplained	Cap OV / Crowbar	0	
		l	İ		Tripped on Crowbar to Standby Error after a successful jump had occurred. A large voltage spike seen using 720Hz is the cause for the crowbar fault.				l
		bi9-ggt			large voltage spike seen using 720Hz is the cause for the crowber fault. (Note: this had occurred back on Dec 10 at 21:30:57 and no action was taken then. Possible looses connection or the Main BU Isolation Board may be out of alcomment as seen in the cast and needs to be recoglitized.)				
13-Jan	21:03:53	bi9-qgt	gC gC	2	of alignment as seen in the past and needs to be recalibrated.) Checking alcoves to make sure all supplies are good before we run a	Unexplained	Crowbar		
		l	ļ		Criscoling accounts to make stute an supplies are good sensor we increase Hysteresis ramp to bring our supplies out from Maintenance day, this supply was discovered to have Cap OV and Crowbar fault. After exercising several				
21-Jan	15:50:32	yo9-qgt	9C	4	Simes, supply seemed to function normally. Will monitor for future trips. Snapshot indicates that the supply had been running at idle current, not involved in a jump, when it just went to OFF. No complaints from MCR so no	Unexplained	Cap OV / Crowbar		Maint.
28-Jan	19:21:33	bo2-qgt	- A	,	involved in a jump, when it just went to OFF. No complaints from MCR so no action required at this time.	Insyntained (see renair Ref to 28-lan at 2/04/28)	Off		İ
					Tripped between prep and ramp and went unnoticed: a large beam loss at				
		l	İ		transition resulted but the experiments have decided to keep the store after steering and collimation were done. Physics running, Brief Maintenance at				İ
			l		1330 by MCR, after extensive poking and stress testing, the OFF switch on the Control Card seemed a bit sensitive. Replaced with a new control card. Trest				l
30-Jan	2:04:28	bo2-qgt	3A	2	Tripped between prep and ramp and went unnoticed; a large beam loss at transition resulted but the experiments have dicided to leagh the store after assuring and collesions were doze. Project privings (filed Matterdam) and 1700 by McC. after executively point god stores training, the OFF switch can be at 1700 by McC, after executively pointing and stores training, the OFF switch contact that the dispersion of the switch contacts had been slightly dishy and self-cleaned by cycling.	Control Card	Off	45	Maint.
			Г		Snapshot indicates that the supply had been running at idle current, not	Ouring Maintenance on Feb 4, connections were checked			
			ļ		involved in a jump, when it decided to Crowbar. Barshow backs this up as the last time it was used for transition was at 19.05:55, then tripping at 19.42.46.	at the back of the supply, Pulled out the Isolation Buffer Card from the main power chassis and reseated connectors,			
1-Feb	19:42:46	bi9-qgt	9C	2	Snapshot indicates that the supply had been running at idle current, not involved in a jump, when it decided to Croebar. Busthow backs this up as the last time it was used for transition was at 10 0.555, the hopping at 10 42-46. It was then racovered with no problem and performed another transition as 2.555.16. No action registed at this time.	Ouring Maintenance on Feb 4, connections were checked at the back of the supply, Pulled out the Isolation Buffer Card from the main power chastes and reseated connectors, Vibratice sets and finally ran and performed a pos & neg jump. Could not find any problems at this time.	Crowbar		
		İ	İ		Friday MCR: Time Logged: Feb 20 2004 19:10:35PM: RHIC garmine-or power supply yorl2-egit tripped without a fault indication and was turned on again white ast above. Use investigating: found that on Feb 16 in legiplest to off at 21:5146, Feb 20 12:53:37, Feb 21 at 04:32:45 and 20:27:17 and Feb 22 at 11:50:14, all to 100 flases white numming as disk current.				İ
		İ	İ		supply yo 12-ggt tripped without a fault indication and was turned on again while at stone. Upon investigating, found that on Feb 18; tripped to off at				İ
20-Feb	19:10:35	yo12-qgt	1A	4	21:51:45, Feb 20 12:53:37, Feb 21 at 04:32:45 and 20:27:17 and Feb 22 at 11:06:14, all to the Off state while running at idle current.	See Mar 13 entry.	Off		
			l		21:35: The beam decay shot up presumably due to the bit-qgt supply. The				
			l		been 1.84 amps before it moved.) This supply did the same thing on				
		l	ļ		that it should be moving to -1.8 from +1.8 at a random time during the store. I Innited through the loss and it annears that the hituest comply risk the same				
			ļ		motion (from +1.8 to -1.9 amps) during stores on the following dates: Feb 12 at 0029. Feb 10 at 0333. Jan 30 at 1850. Jan 19 at 1741. Jan 18 at 1442.		Jumped without		
20-Feb 26-Feb	21:35:00 8:51:02	bi9-qgt yo12-qgt	9C 1A	2	21.35. The bosen decay that up presumably due to the 100-cgs supply. The ord for this supply is 1.25 area, and it is a residual is now -1.50 area; the had for the complete in the complete	See Mar 13 entry. Ref to 1-Mar	given a command	0	<u> </u>
28-Feb	1:39:03	yo12-qgt	1A	- 4	Supply tripped to the OFF state while running at lide current.	Ref to 1-Mar Maintenance, March 3, 2004: Replaced Control card as no	Off	0	F-
1-Mar	5:40:18	yo12-qgt	1A	-4	Supply tripped to the OFF state while running at Idle current.	other faults were found.	Off	0	
		l	İ			Maintenance March 3, 2004: Crew found J30, pins 5 & 8 loose and would not seat properly within the connector thousing. Replacement of the housing and new pins installed on 5 & 8. One of the original complaints was			l
		l	İ			Installed on 5 & 8. One of the trousing and new pins CROWBARING 4X, and then would seem to JUMP			İ
			l			TRANSISTION) on its own. Rentgrement of jump cond.			
						showed that all new jump cards failed. (Problem in the manufacturing of the new jump cards was still under investigation at the time of this report but it appears that			
2-Mar	2:59:44	bi9-qgt	9C	2	Tripped on crowbar fault while running at idle current. MCR reset. Tripped to the Off state while sitting at idle current. Last Maintenance, the	changes to the artwork had left some points unconnected.	Crowbar		
5-Mar	15:35:53	yo12-qgt	1A	4	Control card was replaced, this did not fix the pre mature trip to Off.	See Mar 13 entry.	Off		
					MCZ colled to support that v_j vel. agg eps is at the wrong palarity at the moment. It probably jumped from $S_i \sim 2A$, beliences with the vice $S_i \sim 2A$ below before, and we did not the weight part of the probably support from $S_i \sim 2A$. In the straining a weight is the first and straining in weight is shaden in the first and $S_i \sim 2A$ below $S_i \sim 2A$. Then MADC is an explaining, to $P_i \sim 2A$ the Made is wrong the shaden in which the MADC is not $S_i \sim 2A$. Then MADC is an explaining, to $P_i \sim 2A$ then MADC is an explaining, to $P_i \sim 2A$ then MADC is an explaining to $P_i \sim 2A$ then MADC is an explaining to $P_i \sim 2A$ then MADC is an explaining to $P_i \sim 2A$. Then MADC is an explaining to $P_i \sim 2A$ then MADC is an explaining to $P_i \sim 2A$. Then MADC is an explaining to $P_i \sim 2A$ then MADC is an explaining to $P_i \sim 2A$. Then MADC is an explaining the many than the many tha				
		ĺ	İ		jumped from -2A -> 2A. Johannes to talk to (8:52) John Morris, and see that we get alarms for this. Also adviced Don Brano of another one of these eager jumpen. 9:01: The				
		l	İ		Johannes, 9:09: Something is wrong with the MADC's in cfe-5c-ps2. These MADC's are not undarine. Joe P is available to reboot cfe-5c-m2 on the next fill. Give him a call when				İ
		l	l		ready. I don't think yo5-qgt-ps jumped on its own after looking at slowlogs and pet page but with the pet page being locked up I cannot be sure. We will watch this gamma-T.		Jumped without		l
8-Mar	8:40:00	yo5-qgt	5C	4	Don Bruso [yellow px]	MADC Fault (Controls) Maintenance March 17: Checked connections, found cable	given a command??	0	_
			l			J2 (25 pin "D" connector) to the Power Chassis connected sight but with the slightest movement, supply would trip. Replaced connector end, teseted and could not get the			
13-Mar 14-Mar	2:34:17	yo12-qgt	1A 9C	4	Tripped to the Off state.	Replaced connector end, teseted and could not get the supply to trip.	Off		
14-Mar	16:58:18	yos-agt	90	-	Imped to the Uff state. Tripped to the Off state. Tripped to the Off state. Tripped on Cap OV, Crowbar. While running ide, it appears the Cap voltage was given a command to decrease from 164 volta sin 9.32-47 whereas it manifest of the Cap voltage was given a command to decrease from 164 volta sin 9.32-47 whereas it manifest of the Cap voltage of the		Cit		
15-Mar	9.33.43	V00			Inspecion Cap UV, Clowbar. White running ide, it appears the Cap voltage was given a command to decrease from 184 volts at 9.32.47 whereas it reached 158 volts at 9.33.25 then it took off to the rail, tripping the supply at 312 volts.	Maintenance March 17: Checked connections, node card cable both ends, reseated cards and replaced the Control Coart	Cap OV / Crowbar		
	333-0	Joseph	T~	Ť	Weekend Update: Supply tripped on Crowbar white running at ide currents. Mar-21 at 22:17:42, Mar-21 at 22:38:52, Mar-22 at 05:41:58 and this		OV / CHANGE	,	
			İ		marries May 22 or 08:27.61 when MCD called Investigation found that pay				ĺ
		l	ĺ		Current Regulator card, Type 7, seemed to be the cause as the liref would jump causing the current to shift, making the Voltage spike to the rail.	Replaced the current regulator card then tried to repeat the fault but it would not. Gave card to Tech to check.			l
22-Mar	8:37:51	bi9-qgt	9C	2	Crowbarring the unit.	Nault but it would not. Gave card to Tech to check.	Crowbar	45	
					Snapshot reveals that the supply had tripped to the Off state without a command telling it to do so. Supply was running at fille current at the time. 12:53: MCR: Power supply				
					yo12-qgt tripped, which made a nice improvement in the Yellow beam decay. The subsequent weesening in both the Blue and Yellow decay occurred due to storage cavity.				
22-Mar	12:44:35	yo12-ggt	1A	4	Snapshot reveals that the supply had tripped to the Off state without a contrastal telling it to do so. Supply was reasoning at Bid current at the time. 12-55 MCR: Power supply you'd aget injust, which make a size improvement in the Yellow band days. The subsequent womening in both the Bidse and Yellow decay occurred due to storage cavity problems. Adm Bidse will investigate, we will damp the store due to excessive debranched beam and allow an access for PHENIX. 199		Off		
	4445		آ آ		sampsion snows that a sump command had been given when the supply was not properly setup for the Jump. High Voltage Cap was at zero and the supply was running near zero				
22-Mar	14:15:08	yo12-qgt	1A	4	current. Strapshot reveals that the supply had tripped to the Off state without a command telling it to do so. Supply was running at fille current at the time. (Another trip same day, later that night to the Off state at 23:37:37)	Inproper Jump, Operator Error	Crowbar		
23-Mar	9:07:38	yo12-qgt	1A	4	Snapshot reveals that the supply had tripped to the Off state without a commund telling it to do so. Supply was running at fille current at the time. (Another trip same day, later that night to the Off state at 23:37:37)	Will look at next maintenance	Off		<u> </u>
25-Mar 26-Mar	8:32:18 14:10:06	yo9-qgt yo12-qgt	9C 1A	4	response managed the supply may tripped OFF, running at idle current.	print took at next maintenance	Off	-	
26-Mar	14:10:05	yo12-qgt	1A	4	I reposit to the CIT state once again as per Snapshot, running at idle current	Print took at next maintenance	ion.	-	\vdash
			1		Vijump, Crowbar, Error (Snapshor Times: 01:06:25, 02:46:58, 04:20:05, 64:24:12, 04:25:36, 05:29:56, 0	power on ornepshot, Supply would not jump to the negative negl, Don tried to run it in the negative direction but it anulid not no negative. New location Puller cont in **			
					years, Choulest Certificapete i Times of 1022, 20,046,0,142,04,056,0,0424,0,045,26,005,0,054,0,054,0,055,0,0	Main Power Chassis solved the problem. Testing of card back at the shop showed no problems frame! Proceins Com!			
29-Mar	1:06:35	bi4-qgt	5A	2	again during transition. Approximately 40% of the beam in the blue ring was exputgli6.00m Brano is investigating bi4-ggt from homel 53.bi4-ggt had a problem with the isolation buffer cand. CAS (Charles Loc C) assepted out this card and fasedibon Brano	Seen on Snapshor, Supply would not jump to the negative plast, Don Hied to run it in the negative direction but it special ring on paginst. New baclation Buffer card in the Whain Power Chesais solved the problem. Testing of card Whain Power Chesais solved the problem. Testing of card Sealing on the Residue of the Chesais Sealing on the Residue of a component on the card? Heat besting for one week.	Vjump	45	1:
			Ë	Ė					
							Time Totals:	225	16

Paganal by Gayang 9. Reppan

BUT Recision 900 1904

Date	Ref To:	Serial #	Alcove	Bldg.	Initial Analysis Performed	Final Cause	Original Fault ID
					Fuses found to be blown on original hkps located in yi6-qf9 (Dynapower 200 amp,		
			ı		s/n 980320). New hkps s/n 027 installed and fuses would still blow. Replaced entire		I
	1		1		Dynapower for repair. NOTE: hkps s/n 027 is rated for 120vac not 208vac, causing	l	I
			l			Not rated for 208vac	l
	yi6-qf9						Blown fuses upon ac
2-Dec	(Pre-run)	27	N/A	1008		Primary Transformers.	power up.
						Shorted T402	r
16-Dec	bi8-qf9	108	N/A	1003	208vac fuses okay, no negative 15 volts output.	Transformer	DC Overcurrent, Quench

Inspend by Grapes 9. Majoure

Date	Time In	I-dent	Part of	Sector	Initial Analysis Performed	Final Cause	Fault ID	Tech Time in minutes	Est. Down Time in min.
		1	1		New Temperature monitors indicated fall in temperature, Ice team		ł		
	l	l	1		investigated at the opportunity of a maintenance window of 3 hours.		l		
2-Dec	14:30:00	Y08Q1	Triplet	8		Floor Fan Fail	Routine Check	120	Non-Physics
	1	1	T	1	Temperature levels low, team investigated and found nothing out		1		
		l	1		of the unusual. However, Wing replaced the B9 Terminator from 1		l		
9-Dec	9:40:00	B9DHX	Triplet	8	kohm to a 750 ohm.	Investigation	Routine Check	70	Non-Physics
		· · · · · · · · · · · · · · · · · · ·	Temp		Replaced faulty temp sensor and changed data base to match new		T		
7-Jan	Maint	Y6-17TA	Sensor	- 6	sensor.	Sensor failed	Wrong Temp Data	N/A	Maint
			T				I		
18-Feb	Maint	Q3-2	Triplet	10	One fan was plugged in at sector 10 under inner magnets Q3-2.	Floor Fan Fail	Routine Check	N/A	Maint
			T				T		
		1	†				†		

							Estimated Tech	Link Down Time
Date 2-Dec	QLI-Time In 18:30:00	QLI Ref:	I-dent Y-Dipole	Initial Analysis Performed Reg Error Fault when from Zero to Park	Final Cause Software Changes for this Run.	Fault ID Regierror	Time in minutes	in min. Non-Physic
2-Dec	18:50:00	n/a	B-Dipole	Reg Error Fault when from Zero to Park Loose wire at the UPS neutral phoenix connector going to the	Software Changes for this Run.	Regerror	60	Non-Physic
2-Dec 3-Dec	Maint	n/a MS-004	BQD Bullinnia	Software Testing	Loose Wire Connection	PFN	90	Non-Physic
3-Dec	17:20:48 17:37:20	MS-004 MS-006 MS-007	B-Dipole	Software Testing Software Testing Software Testing	Software Changes for this Run. Software Changes for this Run. Software Changes for this Run.	N/A N/A	N/A N/A	Non-Physic Non-Physic Non-Physic Non-Physic Non-Physic
3-Dec 3-Dec 4-Dec	17:37:20 10:59:08	MS-007 MS-015 MS-017	B-Dipole Y-Dipole Y-Dipole	Software Testing Reg Error Fault	Software Changes for this Run. Software Changes for this Run.	N/A Reg error	N/A N/A	Non-Physic Non-Physic
4-Dec	14:49:58	I	Y-Dipole	Software Testing Dropped when trying to bring the Link up using the Recovery	Software Changes for this Run.	N/A	N/A	
4-Dec	17:20:12	MS-018	BQD	program Crash button was pushed as Tech noticed this supply was stuck in	Software Changes for this Run.	Reg error	N/A	Non-Physic
4-Dec	17:35:44	MS-019	BQD	Reg Watchdog during the guench recovery program	Software Changes for this Run.	Reg error	N/A	Non-Physic
4-Dec	18:09:44	MS-020	BQD	Reg Watchdog during the quench recovery program Crash button was pushed as Tech noticed this supply was stuck in Reg Watchdog during the quench recovery program	Software Changes for this Run.	Regerror	130	Non-Physic
5-Dec 5-Dec 6-Dec 7-Dec	10:21:20	MS-027 MS-030	PQD Y-Dipole	Maintenance.	Software Changes for this Run. Software Changes for this Run.	N/A N/A	N/A N/A	Non-Physic Non-Physic
6-Dec 7-Dec	14:10:20	MS-038	Y-Dipole P Dipole	Maintenance.	Software Changes for this Run. Software Changes for this Run.	N/A N/A	N/A N/A	Non-Physic Non-Physic
7-Dec 8-Dec 9-Dec	1:28:20 13:12:12 9:41:28	MS-038 MS-041 MS-044	B-Dipole Y-Dipole	Regulator Error DC Breaker open on the Ramp Supply, possible loose wire.	Reg Error	N/A Ones Consultor	N/A 30 60	Non-Physic Non-Physic Non-Physic
9-Dec	9:41:28	MS-044	Y-Dipole	Maintenance Maintenance to work on the auxiliary contactor from the Main DC	Software Changes for this Run.	N/A	60	Non-Physic
9-Dec	9:41:31	MS-044	Y-Dipole		Tighten Wires	N/A	62	Non-Physic
13-Dec	20:38:04	MS-054	Y-Dipole	Power supply caused a ground current fault while being ramped to zero by the blue recovery tape. Blue main dipole, PFN fault during the down ramp to zero current.	GFI	Ground Current	83	Non-Physic
13-Dec	23:23:12	MS-056	B-Dipole	Carl is working on the modificients to prevents this	PFN Fault	PFN Fault	45	Non-Physic
16-Dec	9.24:20	MS-058	B-Quad	PS Reg Error Fault during the recovery script	Reg Error	Regerror	21	Non-Physic
16-Dec	10:19:32	MS.050		PS Reg Error Fault during the recovery script. Ground current fault white namping down from Park to Zero. Large voltage spike seem at this time with ground current spikes all before T=zero on the postmortems.	GFI .	Ground Current		
16-Dec 17-Dec	16:13:00	MS-069 MS-064	Y-Dipole B-Qued	Recovering from Maintenance, Regulator Error	Maintenance	Reg Error	N/A	Non-Physic Non-Physic
		ĺ		While ramping to Injection, the 8b-qd2 quench detector tripped,				
21-Dec	12:00:20	MS-077	Y-Quad	George says the Main Quad PS went into some kind of oscillations. PFN1 and PFN2 Faults, Later in the evening (17.01:56) same day, with down time available, maintenance was performed to tighten	Oscillation	Oscillation		Non-Physic
22-Dec	2:53:48		w Breeze	with down time available, maintenance was performed to tighten	PFN Fault	DCM C		No. Phonic
22-Dec 22-Dec 22-Dec	12:09:04	MS-081	B-Quad	with down time availation, maintenance was performed to tighten possible tooke with connections. Recovering from Maintenance, Regulator Watchdog PFR1 and PFR2 Fastls Current Gillich on the main caused the 50-qd1 quench detector to	Maintenance	Reg Error	N/A	Non-Physic
	23:32:48	MS-082	Y-Dipole	PFN1 and PFN2 Faults Current Glitch on the main caused the 5b-qd1 quench detector to	PFN Fault	PFN Fault		Non-Physic
24-Dec	2:11:52	MS-088	Y-Dipole	trip. Current Glitch on the main caused the 3b-qd1 quench detector to trip.	Current Glitch			Non-Physic
24-Dec	9:06:48	MS-089	Y-Dipole	trip. Current Gitch on the main caused the 7b-od1 quench detector to	Current Glitch			Non-Physic
24-Dec	18:45:28	MS-090	Y-Dipole	trip. Current Glitch on the main caused the 35-qd1 quench detector to	Current Glitch			Non-Physic
24-Dec	22:21:24	MS-092	Y-Dipole		Current Glitch	İ		Non-Physic
25-Dec	0.52.56	MS-093	Y-Dipole	Current Glitch on the main caused the 3b-qd1 quench detector to trip. Current Glitch on the main caused the 7b-qd1 quench detector to	Current Glitch			Non-Physic
25-Dec	18:45:38	MS-097	Y-Dipole		Current Glitch			Non-Physic
28-Dec	21:15:00	MS-102	All .	trip. Power Dip caused all 4 Phase Lock Loops in the mains to lose lock and required reset by Carl	Phase Lock Loop Fault			l
29-Dec 29-Dec	13:32:04 13:59:20	MS-106 MS-107	B-Quad	Recovering from Maintenance, Regulator Error	Maintenance	Reg Error		Non-Physic Non-Physic Non-Physic
		T	B-Quad	Yellow Main Dipole PS PFN1 and PFN2 Faults during the ramp up	Martenance	Meg Error		Non-Physic
31-Dec	4:57:32	MS-109	Y-Dipole	Link pulled by YD Ground Current Trip. Postmortem shows ground	PFN Fault	PFN Fault		
		l	-	current on the nower supply and quench arounds. I don't understand				
		ĺ		the current on the quanch ground. I watched the ground currents during the next ramp, they looked good. I will have to watch this, may instrument some points in the circuit on the next maintenance				
1-Jan	7:08:32	PR-001	Y-Dipole	day. CS	GFI	Ground Current		4
				yellow quench link trip was caused by yellow main dipole ps. The ps				
3-Jan	8.52:20	PR-005	Y-Dipole		GFI	Ground Current	0	20-
				blue quench link trip was caused by blue main dipole ps. The ps had a ground fault. The ground fault was caused by high quench				
		l		protection crowbar SCR suddenly conducting. This caused a sudden				
3-Jan	8:52:24	PR-008	B-Dipole	had a grount faut. The ground faut was closed by the positive guarant protection crossing CSF students conducting. Guarant protection crossing CSF students conducting. Guarant protection crossed for CSF students are considered to the conduction crossed for the ground faut. The ground faut was closured by yoth queen protection crossed for Scudents' protection crossed for Scudents' protection faut and protection crossed for students for the ground faut. The ground faut for the ground faut. The ground faut for the ground for the ground faut. The ground for the ground faut. The ground faut for the ground faut. The ground faut for the ground faut. The ground faut for the ground faut. The ground faut for ground faut. The ground faut for ground faut. The ground faut for ground faut. The ground faut faut. The ground faut faut faut. The ground faut faut faut. The ground faut faut. The ground faut faut. The ground faut.	GFI	Ground Current	0	28
3-Jan	16:16:44	PR-007 PR-010	Y-Dipole	yellow quanch link trip was caused by yellow main dipole ps. The ps had a PFN1 fault and PFN2 fault. Ganetis	PFN Fault	PFN Fault	0	2
4-Jan	9:06:32	PR-010	Y-Dipole	yellow dipole main tripped the link on a ground current fault. Don	PFN Fault	PFN Fault	0	3
4-Jan	15:46:56	PR-011	Y-Dipole	Bruno The ground current was caused by the positive quench protection crowber SRC turning on. Genetis	GFI .	Ground Current		5
4-Jan	15:47:00	PR-012	B-Dipole	The claus dipose ground current tip was caused by both positive and negative quanch protection crowbart SCR turning on. Ganetis yellow quench link trip caused by yellow main dipole p.s. The p.s. had a ground fault. The ground fault was caused by the positive	GFI	Ground Current	0	3
				had a ground fault. The ground fault was caused by the positive				
5-Jan	7:11:04	PR-013	Y-Dipole	quench protection crowber SCR truning on. Genetic The Yellow Dipole was instrumented to gain some understanding of	GFI	Ground Current		1
		l		man at grouns sate. I mal ground state was causate by the possive quantity braked more consider SCR training on. Claimsta. The Yallow Dipole was instrumented to gas into well will be accommanded to the production of the state of the state of the accommanded to the state of the Yallow Dipole. Points were also brought out on the Sitas Dipole, but these are not presently moritized. This tip was deliberate and tested the data consideration state.				
		l		were also brought out on the Blue Dipole, but these are not				
5-Jan	18:28:44	PR-016	Y-Dipole	acquisition system. CS	Instrumentation Added	None		
		İ	l	The yellow quench link trip at 11:12:25.26 is not recorded in the e- log. This trip was caused by a dip in the current signal of the yellow				
1		l	1	presently monitored. This tip was deliberate and retread the data acquisition system. CS. The yellow quanch link trip at 1112.25.26 is not recorded in the e- log. This trip was caused by a dip in the current signal of the yellow main quad p.s. Carl S. was investigating assembling in the Output Circuit Compartment at that time and inadventurity caused the current signal to Arraps. Clarifies.		l		
6-Jan	11:12:24	PR-019	Y-Quad		Current Signal Dip	None		100
1	l	l		yellow querich link trip was caused by yellow main dipole ps. The ps had a ground fault. The ground fault was caused by the positive querich protection crowbar SCR suddenly conducting. Ganetis				
6-Jan	20:06:20	PR-021	Y-Dipole	quench protection crowber SCR suddenly conducting. Ganetis	GFI	Ground Current		
		l	1	The yellow quench link recovery did not bring up the yellow main		l		l
8-Jan	2:44:56	PR-029	Y-Quad	quad again when the script was utilized at 0242. Carl was contacted and he had to send the reset command to the yellow quad. jsk This QLI was due to the yellow main dipole. The PET page showed	Did not Reset	None		
				This QLI was due to the yellow main dipole. The PET page showed				
		İ		plot for the yellow d-main is below. This was not a Beam induced		i		
		l		quad again when the scrept was utorized at CO-EZ. Carli was contracted and he had to some the invest comment to the yellow quad. julk. This CSL was due to the yellow maint dipole. The PET page altoward that the flat-demin indicated a Out COZ Sult. The Potermortem plot for the yellow d-main is below. This was not a Beam induced severt. The beam had been absorbed several minutes below the mains rampsed. (We had to reset cls-7a-ps2 between dumping the				
12-Jan	0:01:04	PR-035	Y-Dipole	beam and samping.) pix	Out Current 2 Fault	Out Current 2 Fault		- 2
1	l	I		The Blue Dipole tripped on an overcurrent on OCC SCR 1-1. The channel measured 33% higher than the other channels in the bank		1		
1	l	İ	1	at flattop current; it was determined it was a slope error. This		l		l
22-Jan	15:56:27	PR-068	B-Dipole	The Blas Dipole tripped on an overcurrent on OCC SCR 1-1. The channel measured 35th higher than the other channels in the bank at flattop current; it was determined it was a slope error. This channel was receilbraned. The channel will be examined at the next maintenance day to determine the ultimate cause. CS Yellow quarto, link trip was caused by the yellow main quad p.s	Current Monitor	Current Monitor	60	
1								
3-Mar	5:44:48	PR-118	Y-Quad	quanch link. Ganetis Yellow quench link trip was caused by the yellow main quad p.s. The p.s. had a regulator error fault. The permit link tripped after the quanch link. Ganetis	Reg Error	Reg error		- 6
3-Mar	6:19:08	PR-119	Y-Quad	Yellow quench link trip was caused by the yellow main quad p.s The p.s. had a regulator error fault. The permit link tripped after the quanch link. Ganetia	Reg Error	Reg error	0	Start of Maint.
						· · · · · · · · · · · · · · · · · · ·		
1			1	checking instrumentation on the Blue Dipole and investigation of		1		
1	l	I		regErr trips occurred when the yellow quad was switching from		1		1
1	l	I	1	16.4.1 Maintenence day activities on the RMMPS included checking instrumentation on the Blass Deal investigation of the Yellow Clause Registration at 54.5 and 61.9 this morning. The original size occurred when the yellow capture was sweltning from flastic to care power modulas obting the upstern. This type of fault have not been seen shoot. The egiplater cheases was seasor when have not been seen shoot. The egiplater cheases was seen them published could not be reproduced. C.S.		l		l
3-Mar	Maint	PR-118 and PR-119	Both	software to investigate the problem was loaded. After the reset the problem could not be reproduced. CS	Maintenance	Reg error		
				The valley mench link tile was raused by the valley main and				
11-Mar	9:55:12	PR-128	V Count	The yellow quench link trip was caused by the yellow main quad p.s. whereas a regulator error fault had occurred. The permit link tripped 0.031 seconds after the quench link. Heppner	Reg Error	Pos orrer		
11-Maf	9.55:12	PR-126	rQuad	program www. amounted attack the quarter and. Propping	Irreg Lines	group BITCE		2

Supund by Guyung 9-Reppon

		_						
				14:31:48 first in, Techs replaced the Ramp Digital Firing Card.		l		l
		ı	l	15:40:08 second in, Carl was notified. And also at 17:41:56 third		i		l
				time. The problem with the Yellow Quad Ramp Power Module was		ļ		ļ
		I	l	a loose AC wire feeding the SCR gate driver boards. During the		I		l
				course of the troubleshooting a spare firing spare board was installed in the regulator for the Yellow Quad. This board had a		1		l
1 1		PR-131, 132	1	bent pin the prevented it from operating properly. After fixing these		İ		l
12-Mar	14:31:48	and 133	Y-Qued	two problems a hysteresis ramp was run. CS	Loose Wire Connection	Reg error	259	25
- 12 13 13				blue quench link trip was caused by the blue main dipole p.s The		1		
		1		p.s. had a PFN1 Fault and a PFN2 Fault. The permit link tripped		PFN1 Fault, PFN2		
22-Mar	6:28:32	PR-146	B-Dipole	after the quench link. Ganetis 4b-time B OLL Called Carl shout a	PFN Fault	Fault		
				46-time B QLI, Called Carl about a curr mon indication for the blue main guad. Beam dumped cleanly and no magnets guenched		ļ		ļ
	l	i	i	during this QLI. jak Carl adjusted the current trip point for SCR26.		i		I
22-Mar	15:06:48	PR-144	B-Quad	jak	Current Monitor	Current monitor		4
				blue quench link trip was caused by the blue main dipole p.s The		1		1
23-Mar	6.28.32	PR-146	B-Dipole	p.s. had a PFN1 Fault and a PFN2 Fault. The permit link tripped after the quench link. Genetic	PFN Fault	PFN1 Fault, PFN2		Ι,
23-Mel	0.20.32	PTC-146	b-ulpus	aner the quantities. Carrets	PTN PAGE	raut		ļ
		1		The quench link was pulled due to a quench detector at 1b-qd1 that	l .	ł		ł
		1		picked up the Blue Main Dipole Power Supply as it had gone into				
		1		oscillation when switching from Flat Top Current to Ramp Current.				
		i		There was no beam in the machine at the time, A large spike on the dipole buss seen at B12DSA4_A3VT exceeded max limits. This is		i		l
1		1	1	not a real magnet quench. Cause: Blue Main Dipole Power Supply,		1		l
5-Apr	5:35:08	PR-162	B-Dipole	Oscillation. G. Heppner	Oscillation			
1 7			1	blue quench link trip was caused by 1b-qd1 quench detector. The voltage signals going into the quench detector were not normal due				
1 1		1		voltage signals going into the quench detector were not normal due to the blue main dipole power supply oscillating. On the down ramp	1	I	1	I
1 1		1	1	the ps started to oscillate when it switch from the flat top power	1	ı	l	l
1 1		1	1	module to the ramp power module. Carl S. is investigating this.	I	I	l	I
9-Apr	5:04:16	PR-166	B-Dipole	Ganetis	Oscillation			
1 1		1	1	Yellow quench link trip was caused by the yellow 6-KA Quench		I	l	I
1 1		1	1	Protection Switch. The switch was turned off by the quench recovery	1	I	1	l
1 1		1	1	program. The quench recovery program was re-run because the	1	I	1	l
1		1	1	yellow main Quad p.s. did not come up to current. Carl S. should be	Y-Quad did not turn On during a recovery Script.	1		l
10-Apr	3:58:00	PR-168	Y-Quad	contacted to investigate this. Genetis	(see 13-Apr at 4:00:44 PR-171 for Fix)	Reg Off		3
		i		Yellow guench link trip was caused by the vellow 6-KA Quench	1	i		i
		1		Protection Switch. The switch was turned off by the quench recovery		l		I
		i	1	program. The quench recovery program was re-run because the	1	i		i
10-Apr	7:41:32	PR-170	Y-Quad	yellow main quad p.s. did not come up to current. Carl S. should be	Y-Quad did not turn On during a recovery Script.(see 13-Apr at 4:00:44 PR-171 for Fix)			l .
10-Apr	7.41:32	PR-170	r-Quad	contacted to investigate this. Ganetis The Yellow Main Quad power supply would not come back on after	13-Apr at 4:00:44 PR-171 (0 PR)	Reg Off		
		1		this Quench Event. Four tries to the TAPE script was required	l .	ł		ł
		1		before bringing the yellow link back up. Carl was called at home				1
		1		and found the problem as described here: 5:39. The PLC program for the YQ was corrupted. I checked the program and reloaded it.		PLC Program		
13-Apr	4:00:44	PR-171	Y-Quad	Carl Schultheiss	PLC Program Corrupted and was reloaded by Carl.	Corrupted		
		i		C. Schultheiss was contacted after the Yellow beam energy		i		l
		1		matching at injection was found to gradually be getting worse since sometime during the day on Tuesday. Carl found that the y-dmain		l		l
		1		DCCT reading has been dropping gradually over the last few				
		1	1	ramps. He and R. Difranco swapped out the DCCT electronics and		1		l
		1		tightened the head connectors on the DCCT. The DCCT reading is				l
14-Apr	2:54:40	PR-174	Y-Dipole	now back to where it was before any abnormal activity was observed this week (Monday ® 18:00).	DCCT Electronics	Many		١.,
14-40	2.54.40	PR-1/4	T-Litpus	C. Schultheiss working on the Yellow Main Dipole (PR-174), accidentally	DCC1 Electronics	many		
14-Apr	3:13:40	PR-175	B-Dipole	tripped the Blue.	Carl accidentally tripped blue	DCCT Reg		4
1		1	1	DCCT Reg Error for the Yellow Main Dipole Power Supply, the Main Voltage initially shot up approximately 40 volts, current signal on Odplots showed	[ı	l	I
1 1		1	1	initially shot up approximately 40 volts, current signal on Qdplots showed several spikes before dropping tripping off. All this pulled all 13 Yellow	I	I	l	I
14-Apr	12:40:28	PR-176	Y-Dipole	Quench Detectors, tripping the link. G. Heppner	Yellow Main Dipole Power Supply, DCCT Reg Error	DCCT Reg	120	12
				Carl switched over to regulate off of the redundant DCCT for the vellow dipole				
1 1		1	1	main p.s.'s. He said there is a problem with it. He will go back to the original DCCT but he has installed new connectors for it and will install a new	Yellow Main Dirole Power Supply, DCCT Maintenance	I	1	I
14-Apr	19:46:56	PR-178	Y-Dipole	DCCT but he has installed new connectors for it and will install a new electronics module for it. Don Bruno	Related	I	30	
			7	<u> </u>		1		1
1 1					Yellow Main Dipole Power Supply, DCCT Maintenance	l		l
		ı	1		Related. April 15, 2004: Further investigation of the	i	1	I
1 1		1	1	Dropped the link to restore the DCCT's. The Holec unit was showing a lot of noise (100 mA pk to pk at 80 Hz). The regulator is now using a third Danfysik	original DCCT Burndy Connector from the DCCT Module at the DC Buss that was replaced showed that female "Pin -	1	1	1
1 1		1	1	electronics unit. The redundant DCCT read back is not working properly, it	D" had no longer spring tension to secure the mating pin. F.	I	1	I
14-Apr	20:19:36	PR-179	Y-Dipole	will be fixed at the next maintenance day. CS	Orsatti		45	7
1		1		L	1	I	1	I
		1	1	Several voltage taps around the ring have alarmed (10a, 7b, 12a, 11b, 2b), and this occurred while we were ramping down, so no beam was in the machine.	1	1	1	I
1 1		1	1	This is a typical signature of a yellow main problem. Libby is contacting Carl	l .	I		I
1		1	1	Schultheiss to investigate, and we're ramping other mains back down to zero.		ı	1	I
1 1		1	1	TIS, Sanjee, AJK, Libby Yellow quench link trip was caused by 11b-qd1 quench detector. The quench detector tripped because of a erroneous current	Yellow Main Quad Power Supply, Regulation Problems during the down ramp. Carl reset the Regulator via the	I	l	I
18-Apr	11:37:52	PR-184	Y-Quad	signal from the yellow main quad power supply. ganetis	internet.	l		6
				Testing of Fast Rumps for High Energy Gold Run for next year. The				I
29-Apr	14:56:40	PR-199	Y-Dipole	coefficients for the ramps had to be changed as they are currently set for the Polarized Proton Run! Not a real quench. G. Hoppiner	Maintenance Testing of Fast Ramps	Reg error		mair
Arres	.4.20.40	111111111	- Could	Testing of Fast Rumps for High Energy Gold Run for next year. The	Teamy or the reside			
1 1		1	1	coefficients for the ramps had to be changed as they are currently set for the Polarized Proton Run! Not a real quench. G. Hoppiner	1	I	l	I
29-Apr	14:56:40	PR-200	B-Dipole	Polarized Proton Run! Not a real quench. G. Hoppner	Maintenance Testing of Fast Ramps	Reg error		mair
			-					
						1		
						Time Totals:	1171	163

Fragmad by Grapmy 9. Repsex

OPA's Summary Report

Date	Time In	QPA I-dent	S/N	Alcove	Blda.	Initial Analysis Performed	Final Cause	Fault ID	Tech Time in minutes	Link Down Time in min.
						Received call at 09:15, Snapshot indicated Standby-	l			
9.Dec	8-55-38	vi11.svf	i .	11R	i	Remote Quench, gpa page showed that this supply had failed on Fan Fault. Replaced both fan switches.	Fan Switches (2)	Quaret	73	Non-Physics
3-Dec	0.20.30	7111-022		1		I I I I I I I I I I I I I I I I I I I	I al Omicina (2)	- Common	1	reary myaca
						OVC Fault, CAS swapped out and installed 990216,	Tech reworked all insulation displacement			
20 Dec	729.00	vo8-to6	990190		1008	approx 75 minutes. However, as MCR tried to recover, this soore unit also failed. See next entry.	connectors then heat ran for approximatly 1 month. All good, returned to Spares.	ovc	75	Non-Physics
2000	7.22.00	yourqu	230130	 	1000			1010		reary myaca
			1	1	1	Fuse Fault, Spare unit off the shelf indicated a fuse fault.	Tech reworked all insulation displacement	1	i	
20-Dec	8.59.00	vo8-to6	990216		1006	Approx 45 minutes to replace, Techs are running it for a heat run.	connectors then heat ran for approximatly 1 month. All good, returned to Spares.	Fuse	45	Non-Physics
20000	0.53.00	youngo	230210	-	1000	Ref to PR-008 & PR-009 , QPA fan fault that caused the	Distr. As good, resumed to speed.	-		TVAT-TIYACA
			l			link to come down and not to recover when tried. CAS		L		
3-Jan	17:19:24	bo3-qd7			1004	replaced two air vane switches with new ones.	Fan Switches (2)	Fan	60	91
							Main Controller Board, U10 Processor chip had gathered contamination probably due		l	
							thad gathered contamination probably due to moisture from high humidity during the			
							summer shutdown and was causing	1	l	
						Ref to PR-042 . QPA failed on multiple faults (Thermal.	intermitting contact indicating faults. (VCC Power lost to the chip). Socket and chip	Thermal Crowbar	l	
						Crowbar, Fuse, OVC and Fan) Unable to reset, CAS	were deaned. Further testing showed no	Fuse, OVC and	l	
17-Jan	15:03:00	b12-dh0			1012	swapped out the controlled board.	problems, returned to Spares.	Fan	67	108
			į .	l	I	ROP-08-SPL. Upon the start of Initial testing and before		i	I	
						power up, George requested that we inspect the internal	l		l	
						circuits to the opa. Found the snubber circuit had been				
						destroyed by possible excessive current flow from the previous run (fv03). The C1, 20 uf cap checked out okay	l	Preparation for supcoming p* Run	l	
18-Feb	Prep	vo9-snk7-2.3	1014	9C		but the 100ohm 12W resistor had been torched.	Unexplained	fv04	N/A	N/A
									i	
			l			RQP-02, 100 amp: yo1-sxf had quenched while MCR was filling the yellow ring. MCR ran the recovery but the the	l .	1	l	
			i	l	i	supply remained off so they contacted D Bruno. Alarm log	l	i	İ	
			l	l		indicated a fan fault so it was descided that CAS make an	Faulty fan, replaced with a new one, p'n	Į.	l	
26-Apr	3:49:17	yo1-sxf	990042	1B		entry and replace the entire unit.	020188	Fan	55	72
						PR-209, Power Dip on May 3 at 22:17:16 cause Quench		1	l	
						Links to trip. Upon recovery, Fan Fault occurred and			l	
4-May	0.00.01	bi4-tq4			1004	would not reset. Tech was called in to repair fault	Fan Switches (2)	Fan	30	30
						PR-209, Power Dip on May 3 at 22:17:16 cause Quench			l	
	0.00.01		1			Links to trip. Upon recovery, Fan Fault occurred and		L		
4-May	0.00.01	yo8-qd1			1008	would not reset. Tech was called in to repair fault While bringing up the link due to bo?-qf2-px fiber optics card, bi?-	Fan Switches (2)	Fan	30	30
						tq6-qpa developed an OVC Fault that could not be reset. Replaced			l	
12-May	14:08:07	bi9-to6	990217		1010	the QPA. Note: Temperature in the service buildings are warm. G.	Unit in repair	ove	30	45
12-May	14:06:07	00/10/5	390217	-	1010	Hopping While waiting for the links to recover from a quench event, Wing	Unit in repair	UVL	30	45
			1			While waiting for the links to recover from a quench event, Wing noticed that the +12V1 LED for hi9-qd2-qpa was not ON.	1	1		
			l	l		Watching the link come up and the supplies to ON, it was	I	1	l	
			i	i		determined that perhaps the LED bernt out or may have been soldered in backwards from the beginning. To be put on	ĺ	1	İ	
12-May	14:48:00	bi9-qd2	L	L	1010	Maintenance List.	Place on Maintenance List	N/A	0	0
-				-	├				L	
				 				 		
-				 				Time Totals:	465	376
						<u> </u>	<u> </u>			1

Proposed by Grapos F. Mappers

Quench Switches, Building 1918A Bummary Report

						Tech Time in	Link Down Time
Date	Time In	Switch ID	Initial Analysis Performed	Final Cause	Fault ID	minutes	in min.
					Electric Safety Fault, PFN		
		l	The Main Contactor was found to be stuck in the closed position.	1	Voltage High, Contactor Fault,		
1 1			A loose connection found near the PLC was cleared and found	A 110vdc trip coil that that triggers the main contactor open,	Thermal Fault, Over Current		
4-Dec	13:10:44	B10DQPSW	not to be the problem.	failed and was replaced.	Fault, UPS Fault cfe-10a-ps3	225	Non-Physics
				Improper Fuse: (Comment by Physicist: 13:08: Note that			
1		1	UPS fault. The UPS checked okay by CAS so it appeared to be	fuses were removed and reinstalled by CAS in 1010 at 5 AM	1		
		l	the PLC interface card in the UPS. CAS investigated for Wing and	today. We should make sure that this was done correctly or			
		1	found the +12V missing on the Y10DQPSW quench switch. Wing	whether it needs better instructions. TR) Later, it was known			
		l	discovered the fuse that was removed for electrical LOTO	that CAS did not remove the fuse in question and that it may			
			vesterday in 1010 was improperly installed. He removed it.	not have been properly installed from the beginning and			
5-Dec	1:05:52	Y9DQPSW	inspected it, and reinstalled it properly.	final faulted in time.	UPS Fault	347	Non-Physics
			Routine Maintenance to tighten wires, clean PLC card contacts	i			
5-Dec	11:59:08	Y9DQPSW	and inspect of same	Reworked wires into PLC as needed.	N/A	N/A	Non-Physics
			Routine Maintenance to tighten wires, clean PLC card contacts	· · · · · · · · · · · · · · · · · · ·			
5-Dec	11:59:08	Y10DQPSW	and inspect of same	Reworked wires into PLC as needed.	N/A	N/A	Non-Physics
			Routine Maintenance to tighten wires, clean PLC card contacts	1			
5-Dec	11:59:08	B9DQPSW	and inspect of same.	Reworked wires into PLC as needed.	N/A	N/A	Non-Physics
				Reworked wires into PLC as needed. Found Fuse Holder F10			
		l		to have a loose contact connection. No Spares available:			
1			Routine Maintenance to tighten wires, clean PLC card contacts	temp replaced with a standard type fuse holder with pig tails	1		
5-Dec		B10DQPSW	and inspect of same.	for connection.	N/A	N/A	Non-Physics
18-Feb	Maint.	ALL	Routine Maintenance, check of Dump Resistor Bolts.	1	N/A	N/A	Non-Physics
		1	1	ł	•		
1		I	Uses investigation. Sound that the BHDOPSW had indeed indicated OVC and that there was	i	İ		
		l	also a Battery Fail Light indication on the UPS-3000 that supplies the uninterrupted power to				
		1	the rack. Also found the same UPS condition for Y10DQPSW existed (See Yellow PR-187	blue quench link trip was caused by a loss of power to the b9 6K Amp			
		l	below) but yellow remained on. TAPE Recovery failed on the first attempt, Wing Losio informed that an Over Current Fealt for any of the four Owench Switches located in building	quench protection switch. We believe the UPS for this switch had a			
- 1			2000A requires a manual reset at the veritch itself. We waited as George Gunetic becaus to	bad battery and when the UPS was doing a self-check, it could not	1		
- 1		1	Analyze why these had been no Data stood on the Postmortens for the Quench Swinder.	supply power to the switch and this caused the switch to open and to	1		
20-Apr	15:49:38	B9DQPSW	(See MCR LOG below for details) G. Heppeer	show a fault. Ganetis	ovc	120	190
				1			
					Time Totals:	692	190

Trapend by Gayrey 9, Repna

Date	I-dent	MFG Part Number	Qty Replaced	Technical Notes
20-Apr	B9DQPSW	RBC11	2	Upon investigation, found that the BODQ/SSW had indeed indicated OVC and that there was also a Bastleys Bod Light Indication to the UPS 3000 that supplies the uninterrupted power to the rack. Also condition for Y100Q/SSW existed Sex Yellow PS 1187 below the style of the strength was present to the State Annews (1400 Compared to the State Annews) and the Compared to the State Annews (1400 Compared to the State Annews) and the State Annews (1400 Compared to the State Annews) and the State Annews (1400 Compared to the State Annews (1400 C
22-Apr	Y10DQPSW	RBC11	2	yellow link trip was caused by a loss of power to the 99 6K Amp quench protection switch. We turned off the UPS to do a self-check on the battery. This battery is marginal and will have to be replaced within the east couple of days. Ganetis Yellow Link was tripped to replace the UPS Batteries for the Y 1000/PSW Quench Switch in building 1010A. (Reference to April 20, 2004, QLI for Yellow 10a-ps3 B @ 17-18S).

9-ин the 20nd of Gayroy 2. Ягурана 5132004 2.43 РМ

Bruker Sextupole Power Stopply Summary Report

Date	Time In	I-dent	Alcove	Rack	Initial Analysis Performed	Final Cause	Fault ID	Tech Time in minutes	Mach Down Time in min.
					When analyzing yi11-axf-opa fault Dec 9, at 8:35:38, found this supply to have tripped off on Crowbar. Snapshot indicated Standby-remote- quench. Using High Resolution (720Hz), one can see that a voltage	Voltage Spike to 9v,			
9-Dec	8.55:38	yi11-sxd-qpa	11B		spoke of 9V is what caused the opa to crowbar.	no action taken.	Quench	N/A	Non-Physics
28-Jan	8.02.00	yo1-sad	18		Quenched at 10 araps, 9–80: M. De La Vergue owapped out the AT Centroller Digital Card and the AC Controller Analog card as per Don Brans. This was not the cause on they swapped much segment with another anyple and placed the coiling cards back into the supply and fall worst well. Confirming that the supply and fall worst well. Confirming that the supply is not the cause, thanded problem of the Controls and after instance investigating, they explicate the Medium Roc Card (16 bit) and that fixed the problem, Handing back over to MCR at 15.5.	Controls, (16 bit) Medium Res Card	Quench	235	333
				l		1	l		
						I	1		
							Time Totals:	235	333

Francoid by Grapous F. Respons.

Stale / Spik notators Power Supply Summary Report

D	Time In	Туре	I-dent	Alcove	SQ Ref	Initial Analysis Performed	Final Cause	Fault ID	Tech Time in	Est. Down Time
Date	i ime in	Туре	1-dent	Alcove	SORE	RHIC os work performed today: Don Bruno, 1) All snakes and spin rotators were	rinal Cause	Pauli ID	minutes	in min.
					l	put into STANDBY and the DCOC's set to 50A. The gpa for you snk7-2.3-qp was swapped out also. 11) The error adjust for the snake and rotator p.s.'s was				
						reduced from 1.25V (5V) to 0.75V (3V) and the error delay was reduced from				
18-Feb	Preparation	snk			├	3.7V (4sec) to 1.67V (1sec).			, N/A	N/
					l	RHIC ps work performed today: Don Bruno. 1) All snakes and spin rotators were put into STANDBY and the DCOC's set to 50A. 2) The error adjust for the snake				
					l	and rotator p.s.'s was reduced from 1.25V (5V) to 0.75V (3V) and the error delay				
18-Feb	Preparation	spin				was reduced from 3.7V (4sec) to 1.67V (1sec). 22:18: I have finished turning on all of the snake and rotator p.s.'s to 1 amp.			N/A	N/J
					l	Only one p.s. would not go up to 1 amp. This was bi8-rot3-1.4-ps. The setpoint would not increase even though the wio went up. We will have to check this out				
						the next maintenace day. I left bi8-rot3-1.4-ps in STANDBY with no faults. I will				
21-Feh	Preparation	both	All		l	leave all of the other snake and rotator p.s's on at 1 amp so we can monitor them. Don Bruno [thic os]			N/A	N/
					l	22:18: Would not go up to 1 amp. The setpoint would not increase even though the wfg went up. We will have to check this out the next maintenace day. I left	Need to			
21-Feb	22:18:00	spin	bi8-rot3-1.4	9A	١.	bi8-rot3-1.4-ps in STANDBY with no faults. I will leave all of the other snake	Investigate March		N/A	N/
21-Feb	22:18:00	spin	bi8-rot3-1.4	- 9A	-	and rotator p.s's on at 1 amp so we can monitor them. Don Bruno [thic ps]	Srd. Need to		N/A	N/J
28-Feb	11:07:02	spin	vo5-rot3-2.3	5C		Supply tripped to the Off state, reason unknwn. Supplies are running at 1 amp for breakin period, Polarized Proton run due to begin March 1, 2004.	Investigate March		N/A	N/
20-FWD	11:07:02	spen	y05-1013-2-3	- 50	 	20:36: I needed to take more time this maintenance day to install new voltage	3/0.		N/A	Ne.
					1	tap cables and a new card in the 9c snake quench detector. Preliminary test in bidg. 902 of the instrumented snake magnet is showing there is a problem with				
			yo9-snk7-1.4, yo9-snk7-2.3.			the present system configuration in detecting certain types of quenches. This new configuration should solve this. I still need to do some data base work and				
			yo9-snk7-2.3, bi9-snk7-1.4	i	i	do more testing in bldg. 902 before I will be able to test this new configuration	Upgrade of			
2-Mar	Maint.	snk	bi9-snk7-2.3	9C		in the ring. Ganetis	Quench System		N/A	N/
						21:07: Hardware and software modifications to the quanch detectors in 9c, 3c,		1		
				i	i	and the are complete and tested. The hardware modifications are complete in 7c. There is still one day of tunnel work to complete 7a and 5c. All the testing	i			
						done so far has been at low current. I will need at least one more long day to				
		snk and		3C, 5C, 7A, 7C,		test the magnets to high current after all the modifications are done. If there are blocks of 4 hours of down time I might be able to do the high current testing on	Upgrade of			
17-Mar	Maint.	spin	All	9A, 9C		some of the magnets then. Ganesis 10.49: Today Tom and Gregg installed the new setpoint cards for the snake and	Quench System		N/A	N/
						rotator p.s.'s in 3c and 9a so more testing can be done. Don Bruno [rhic ps]				
25-Mar	9:00:00	snk and spin	All	3C, 9A		This took place during a Controls Failure that allowed us a brief tunnel access. G. Heppner	New Setpoint Cards		N/A	N/
					l	High Ground current reading on the MADC's when initial testing. Found the metal can that supports the 500mcm cables to the magnet tree had been		Ground Current		
2-Apr	Maint.	snk	yi3-ank7-2.3	3C	Į.	positioned to low durning a previous modification to add more Quench Monitoring signals, was shorting one of the power leads to earth ground.	Repositioned can	Reading high on MADC	60	N/
2-Apr	Marie.	378	yi3-siik7-2-3	30			Repositioned can	MALC		- Nev
						Supply steady at Idle current of 1.08 amps when the Voltage and Current spiked causing the quench detector to trip the supply. Maximum levels at trip: Current				
					l	= 5.53 amps, voltage = 8.55 volts. Iref remained constant therefore eliminating		Standby -		Physics no
2-Apr	16:42:08	snk	yi3-snk7-2.3	3C	SQ-001	the current regulator card for relay setpoint un-stabilization. Heppner		Quench	, N/A	taken data
					l	y/3snk7-2.3 tripped because the ps had a sudden jump in current. This caused the quench detector to trip. Then 2.4 sec later y/3snk7-1.4 quenched due to		Standby -		
3-Apr	20:50:12	snk	yi3-snk7-2.3	3C	SQ-004	warm gas from y/3snk7-2.3 tripping and then quenching. Genetis		Quench	N/A	85
						y/3-ank7-2.3 tripped because the ps had a sudden drop in current. This caused				
					l	the quench detector to trip. Then 2.4 sec later y/3-snk7-1.4 quenched due to				
					l	warm gas from y/3-snk7-2.3 tripping and then quenching. This is an on going ps problem with y/3-snk7-2.3. It has tripped at least once a day. D. Bruno should				
				Ī	i	get time to fix this. This was not caused by any beam loss. Ganetis Celled in, however, due to continued RF work, access was not permitted. After a two-hour	l			
						wait, MCR and I consulted, Power Supply was running and had not tripped		Standby - Error		
4-Apr	10:35:56	snk	yi3-snk7-2.3	3C	SQ-006	since. Decision was made to leave. G. Heppner	21 Water damo	Signal - Quench	N/A	48
					1	Maintenance Day 3 days: 1) Examined all D connectors, cards and found 2)	Iref Card, 3)			
					SQ-001,	new liref card had possible been water damp due to heavy rains the day before. Lables on card had been shrivanbled. 3) Found the Voltage pot on the power	Voltage pot 1 1/2 turns shy of full, 4			
4-Apr	Maire	onk	ui3.onl/7.2 3	90	004 &	10 was 1 1/2 turns shy of full output. 4) Controls group went ahead at our request and replaced their Low Res card. G. Heppner)	Low Res card			Maint 4320 min
+Apt	Marie.	SER	y-smr-23	30	005	response and represent that LOW RAIS CARD. G. PREPRINT	republika		NA	
					l	There was a power failure at 1004B today at 14:17. The snake magnets quenched at 14:36				
						because the UPS at 1004B, which keeps the event link up ran out of huttery power. When the event link goes down the setpoint drops to zero very quickly and the snake magnets				
						the event link goos down the sepoint drops to zero very quickly and the snake magnets quench if they are above 20A. We had 19 minutes to many down the snake power supplies if we would have had an alarm from the UPS that keeps the event link up. The alarm would				
				3C.5C.	l	we would have had an animit from the UPS have started delivering power. We think it would be very good to get an alarm to the alarm screen from this UPS so we know we know that the				
		snk and		7A, 7C,		event link will go down in 19 minutes and we can ramp the snakes down before the event	Power Failure at			
14-Apr	14:38:07	spin	All	9A, 9C	SQ-009	link goes away. Doe Bruso	1004B substation	Quench	0	340
					1	Rotator trip was caused by Sc-qd1 quench detector. The quench detector tripped because yo5-				
						rot3-2.3-ps had a sudden increase current. It was a 4.2 Amp increase in .15 sec. The quench detector cannot work at these namp rates. This is a power supply problem and D. Bruno is				
						investigating. The beam permit tripped after the snake trip. Magnet yo5-rot3-1.4 also	Ref to 29-Apr			
27-Apr	0:13:31	spin	yo5-rot3-2.3	5C	SQ-012	quenched due to warm gas from the yo5-rot3-2.3 quench. Ganetis	Maintenance	Quench		
						Scheduled 4 hour maintenance/Y65-ret3-23:1) inspected Current Regulator cand because the Error Eignal was not represented properly on the postmontens. Found jumper for E42 to E44 missing, this in the opens the inclus to the instrumention ampfilling Openiod the Seption candil Replaced the Low Res card	1			
ļ				1	i .	opens the circuit to the instrumenation amplified; Replaced the Selpoint card) Replaced the Low Res card	I	1		1
					1		on.			
29-Apr	Maint.	spin	yo5-rot3-2.3	5C		S.N 023 cut, SIN 079 put in place(ii) Put up a plastice rain barrier sheet as water may have been dispoing supply.	nto		20	Maint 240 min
29-Apr	Maint.	spin	yo5-rot3-2-3	5C		(SAN 020 out, SIN 079 put in place(6) Put up a plastice rain barrier sheet as water may have been dripping supply.	nto	Time Totals:	20	Maint 240 min

Trapected by Grapmy F. Hirperex

Maintenance I Misc Fault Summary Report

Date	Type of:	Maintenance Work Performed during Physics Run fy04	in minutes	Actual Time in minutes
		SHIC Power Supply Maintenances, work on the code for the regulator error fault on the main p.x.'s was done but not complete so P. USES STATUS ATTION A RECEIPMENT DOWN FEDO TO DAMY from your or well this in found All the other store but receipe services.	EASE On	
3-Dec	Maint.	SMC Every Search Winderseasch, sock on the code for the regulator ever fault on the reads p.a.1 was done but not complies to R. SEG SLOWE FACTOR is N. GOONG FROM ZERO TO PARK town row on until this is fault. All the other slow because to exempting sensi- seasch. 2-bit-Pig-9 was suspeed cod. There is one broken all conditioner is above 11°C which must be regulated, the other are conditioner secretary. A lost build up was found on the reaguest tree of YOLOT because the stort face was broken. The face was rightediation [mc]	she er is X	×
		The The Table of Market (1997) is designed in the Conf. (1997). When I Table is the section between the Market (1997) is and the Conf. (1997) is t	ate tag that	
		sampped out of allows 91°C. Bits a mod Tom did this. Bits a said the side of the p.x. by the hipps was very hot so it seemed like something. This p.x. ripped multiple intension on error signal fault but after MCR set the p.x. to the CFF state and back to stby it stayed on for any toward or to be below we associated four. It thought all sents of firms on an error signal fault but after MCR set the p.x. to the CFF state and back to stby it stayed on for any toward or to be below we associated from all it thought all sents of firms on an error fault from 102-100-0-027/80. The miss occurred within the	is wrong, and 12 amping	
8-Dec	Maint.	so it may be the current regulator error circuit that tripped it out and not the undervoltage causing the trip. Vit1-set-up han twitches we replaced because this gas stipped on a tan fault and the fan fault could not be reset. Magnetes Rich C and Wing Inspected the isset in sector it because the temperatures looked low on the readulack. They did not find anything wore plut Wing of thongs a terminal	eers in X	×
		SHC Power Supply Maintenance!, y6-q83-ps awapped out. Signal cable between bot0-q63-ps and bot0-q63-pp awapped but.		
17-Dec	Maint.	SHIP. Preset Specify Microsences: (4-q20-ps swapped cold. Signal cable between to 10-q20-ps and beth-q20-ps swapped but. Replaced traderies for till specified describe URE/Materisanous was done on the quant describe name in Microsections was described by yill-grape Sectionary to the CPT desian be traderies for the present present and present on the present of th	tue row 480	675
22-Dec	Maire.	SWC Power Supply Maintenance! Connecto bod-thill was evapped nik. The control card, digital isolation card and node card cable were reapped out for yol-oppoil. Healess were put in the hancel rear the tiplice of sector eight heater was replaced on top of the I had valve bod. Will collect air PP in the XFT len. Will cold not reproduce the problem but well do sup the TCLDO box of YOO with installed a sparse TCLDO box on YPT. We must keep an eye on YPT and YOO. Don Strano	P1 and 240	240
		Static Power Support Maintenances*) Replaced Sr. p.s. in node card chassis in 10008 that feeds the quench link bypass challpsis. Replaced filter optic Interface card y0~4(%-ps.) binch testing of spare filter card only, supply is challed havins impacted in 10008 bit who bods) Main		
29-Dec	Maint.	detector network connection fixed. Don Bruno [rhic]	480	480
		SIGN: Waterance Stated at EXX 150 to 150 host on the mains delayed causing maintenance to continue until madulor handed over to 2044 host. 15 Septical 50 cell for sprice and an inserted to Alfor the Applications of the Continue of the Con	MCR	
7-Jan	Maire.	 Verify correct ID numbers for both-fill and bit-to-t for data billiplication diagnostic equipment on the yellow main dipole for unexplaine shalls. 	480	824
		Scheduled Maintenance for 1600 to 2000 house) Replace Standard control cards with modified vension that should eliminate the fa FET fault on power supplies y110-ig5 (sin 017) and yoll-ig6 (sin 006) in bidg 1010 and monitor Spheapers MOV for cornect position on	·	
13- inn	Maior	Standard Manchenzer for 1900 - 2000 Suppl (Seption Despute course cent with modified emission that should allow the left That all a power supplies played (Seption Sep	240	00
			240	
		The Court Sect Medication (1971) has a critical ware reapped on the following Section of the Court of the Section of the Court of the Section of the Court of the Section of the Court of the Section of the Court of the Section of the Court of the Section of the Section of the Court of the Section of the Se	tha-qp 0-	
21-Jan	Maire.	quirys. by yet representations assuped and in powery or yet rectifies an extraction and no proteins were suppose with depair p.s. yet that it yet now sopper remote commands, this was fielder with OC signal cables were not in all the service buildings except the which as the quench signals going into the permit moduling Maintenance was done on the quench detection, service firmos (rich:	ck 480	570
		SSIIC Power Supply Maintenance: 1) The DC cables were disconnected and shorted out at the magnet and for the warm dipole p.c. \(\times 2\) New Maintenance: 1) The DC cables were disconnected and shorted out at the magnet and for the warm dipole p.c. \(\times 2\) New Maintenance: 1) The DC cables were disconnected and shorted out at the magnet and for the warm dipole p.c. \(\times 2\) New Maintenance: 1) The DC cables were disconnected and shorted out at the magnet and for the warm dipole p.c. \(\times 2\) New Maintenance: 1) The DC cables were disconnected and shorted out at the magnet and for the warm dipole p.c. \(\times 2\) New Maintenance: 1) The DC cables were disconnected and shorted out at the magnet and for the warm dipole p.c. \(\times 2\) New Maintenance: 1) The DC cables were disconnected and shorted out at the magnet and for the warm dipole p.c. \(\times 2\) New Maintenance: 1) The DC cables were disconnected and shorted out at the magnet and for the warm dipole p.c. \(\times 2\) New Maintenance: 1) The DC cables were disconnected and shorted out at the magnet and for the warm dipole p.c. \(\times 2\) New Maintenance: 1) The DC cables were disconnected and shorted out at the magnet and for the warm dipole p.c. \(\times 2\) New Maintenance: 1) The DC cables were disconnected and shorted out at the magnet and for the warm dipole p.c. \(\times 2\) New Maintenance: 1) The DC cables were disconnected and shorted out at the magnet and for the warm dipole p.c. \(\times 2\) New Maintenance: 1) The DC cables were disconnected and the magnet and the mag		
		The Control of Marketone (1) The Co. Action was discovered and detailed as the singuith and for the contribute (1). Special control of the co		
		same. If it is explained in the content instance or as manager is view appears. If the explain is not explained into proceed in the companion and in the content in the content of the explained in the legislation of the legislation of y12-q7 were checked to make some they were not incom. If The inclusion belief card was		
4-Feb	Maint.	Scheduled 1 hour maintenance. Controls replaced the 6b-ps1 Permit Module Chaosis. Possible grounding problem that had been the cause of the mysterious prior QLI trips. Upon powering down the chaosis, both links	720	690
10-Feb	Maint.	dropped.	60	106
		RHIC Power Supply Maintenance: 16:30: 1) All snakes and spin rotations were put into STANDBY and the		
		13-CUC. Her to 500c. In eigh nor vyor-mer. 2-3-egh was weappeal out aim. 2) the most case came for not 1-ey-ph was weappeal out. 3) One fan was plugged in at sector 10 under imment (9.2-2.4. 6) k brefen fan was replaced magnets Q3-1 in sector one. 5) SCR forward voltage monitoring was installed on the blue main dipole OCC. 6)		
		The 6000A quench writches were inspected in 1010A. 7) Relay straps were installed for the new aux relay in p.x.'s yu12-qd1, yi11-qf3, y12-qf3, b12-df0, and b12-dfn. 8) The signal connections between yo0-df0-ps and yo0-df0-qs were inspected 9) A k-lock was replaced for one of the quench signals which is monitored by the MADC at 1000B.		
18-Feb	Maire.	BIRC New (Sangh Mathematics 14,000, 14,000 and not option that was up in not 7,000 for after the complex of the	540	462
		control chassis for yo5-ox3-23-ps and repaired signal cables on ror of p.s. 3) Ran up rotators in alcove 7c for cable resistance measurements. 4) Repaired signal cable on rear of bi9-qgt-ps. 5) Swapped out control crad c		
		ps. 6) Awappen on corrector p.s. is no-ent-ps. you-ret ps. to 50-eV-ps. and you-ret-ps. 1) Assau p.s See U.S. scenaments at 16-44. 8) New egus fan switches were installed in 100-11-egf-ps and 402-q7-ps. 9) The warm dipole ps. at 1012A was turned on and losted. It is ready. 10) Examined the current monitoring classis in Blae 6000A quench		
3-Mar	Mains.	Scholard Materians from 1984; 1880. 15 Service able connected to this cent. 14. pp. 25 Serperd and by the connected to the cent. 14. pp. 25 Serperd and by the continue measures. 6. Experted upon the connected to more of the copy, p. 25 Serperd on committed could spiral approach to the connected could spiral approach to the copy and 1984; p. 35 Serperd on committed could spiral approach to the connected could spiral approach to the connected could spiral approach to the connected could spiral approach to the connected could be connected could be connected to the connected could be connected to the connected could be connected to the connected could be connected to the connected could be connected to the connected could be connected to the connected could be connected to the connected could be connected to the connected could be connected to the connected could be connected to the connected count connected could be connected to the connected count connected to the connected count connected count connected count connected count connected count connected count connected count connected count connected count connected count connected count connected count connected co	480	734
		(Scheduled for 6700 to 1500 but was extended to 2000 hours) RHIC p.s. maintenance performed: 1) yo4-th12		
		ps replaced. 2) Repaired the 22 D Connector on yo12-qgt-ps. We believe this was causing the ps. to trip to the OFF state. 3) Replaced the control card of yo4-qgt-ps and reseated cards-4) Replaced quals B 1 is nock R2BBQFS in 1002B. (Intermitten readback core. a) If talks would show us when read while there is actually to faith 33 Pulled in		
		new quench detection cable for the rest of the stukes and rotators to Some of the new quench detection cable has been terminated, see George for more details. [Hardware and software modifications to the quench detectors in 9c, 3c, and		
		Such add. In 1991 1, 1981 her was controlled to 1998 here a 1 1997 c. As substances performed. I productly produced a Namenda of De Canacione on 1992 here. In Name of the 1992 here is the 1992 here is the 1992 of the 200 of the 200 performed on the 1992 here of the 200 performed on the 1992 here of the 200 performed on the 1992 here of the 200 performed on the 1992 here of the 200 performed on the 200 pe		
17-868	Mare.	able to do the high current testing on some of the magnets then. Garnelis 7.7 Totals new snapshet software in alcore BHIC Power Smooth Maintenance: 11 Connection of march detection wires in 5C, and 7A Sein Renters by	780	780
		902A Techs. 2) 7C locks removed from the spin rotates. 3) Checked operation of ground current monitoring chassis in alcove 3C, 9C, 9A, 7C, 7A, 5C. 4) Alcoves 3C, 9C, 9A, 7C hi-pot of snake magnets and p.s.'s. 5)		
2-Apr	Mains.	BBC Pener Spage Matternation (1) Generation (parel-decision-win is C. and 1.5 for Restrictly 900 Action 3, 7 Carlos remark loss days made 3, Octobal specimen (parel-decision-win is C. and 1.5 for Restrictly 900 Action 3, 7 Carlos remark loss days made 3, Octobal specimen (parel decision contenting short action (2) Carlos (2)	360	360
		The Control of State (1994) and only only on the Control of State (1994) and only only only only only only only only		
Apr 5 to Apr		seatupole current regulator cards were tested out) testaled Voltage Monitoring boards in sector 9 to treating purposition fismed risk. pp. <u>Summarray of marks and rotated readings</u> All soft -2.3 have been tested to 205 Amgly All soft -3.4 have been tested to 2 with the common sector of 2 of the common sector of 2 of the common sector of 2 of the common sector of 2 of the common sector of 2 of the common sector of 2 of the common sector of 2 of the common sector of 2 of the common sector of 2 of the common sector of 2 of the common sector of 2 of the common sector of 2 of the common sector of 2 of the common sector of 2 of the common sector of 2 of the common sector of 2 of 2 of 2 of 2 of 2 of 2 of 2 of		
	Maint.	Province where cond on an statue and notice crousquingpostic software has been modified and fested. BHC Maintenance coefficied / Other tasks done() Bitch Pings were high potted; the leakage currents were very MBCPanged the	3 days	3 days
Apr 5 to Apr	Maint.	SIGC Maintenance continued J Other tasks doesn't like in Rings were high points; the laskage currents were very MijChanged the panish president along resistant for the yellow reg opion clear at 910%. They are now at their design villulatation a line-level chassis power people in the last of 1016; This line rings by the bila and order, it is being monitored by a new 1-vire last monitoring the will new it reads to the property of the last of the	eard. We 3 days cont.	3 days cont.
		EBBC Power Supply Maintenance: (1) Yellow Link was tripped to replace the UPS Ratteries for the YHDQPSW Quench Sorioth in building 1000A. (Reference to April 20, 2004, QLI for Yellow 10x-pc?-R @ 17.10). 2) Repair a chiefding wire to the connector of the Radundant DCCT.		
22-Apr	Maint.	neobor software was installed in the RHC service buildings. Don Bruso	120	55
		Timing Resolver Software: It was discovered that the new software, Version 3.0 for building 1010ATiming Resolvers had a hight flow. 1 Group Bt REGOLVER holy 400, 100-400, 100-400 at 101-400 are mining from the new file. 2, 1 Group, RELORAGOES, 100, 100-400, 100-400 at 100-400 are mining from the new file. 2, 1 Group, RELORAGOES, 100-400, 100-4	Done while Links	
26-Apr	Mac.	does not register, only 0 appears. 3) Version 2.0 was reloaded for now until changes can be made to Version 3.0.	where Up.	35
		Scheduled 4 hour maintenance(Y05-ret)-2.2-1) inspected Current Regulator card because the Ernor Signal was not represented properly on the postmortens. Found jumper for E42 to E44 initiating, this in turn opens the circuit to the instrumenation adipReplaced.		
29-Apr	Maint.	Scheduled 4 hour maintenance Yof-rest-3.2-1) inspected Current Regulator card because the Ener Signal was not represented proughly on the postmentum. Found proper to EC 4 is 64 in stating, this is burnicyase for a cloud to be instrumentation subflementation and adjustments. Splander has been found and 61 stating, and the property supplies that is the state where the severe of the supplies of	240	385
		160MB, At R4 Group but three channels in Group 1 for this 4(\$), bit-4(\$) and both-4(\$) and three channels in Group 2 for yil-4(\$), yet-qu 4(\$). All indicated 25% as the group designation and recorded 0 read times. Notified Corrotia and they weifind problem was at our enc Reprogrammed fishing Resolver with Original V2.0 act and pd 16Moint When viewed before programming, Verified from the front that	Done while Links	
3-May	Time Res	See Section 2.4 MBBAN Property Section 1.4 MBBAN	where Up.	30
10-May	Time Res	latest Version 3.0 as software had been corrected. Waiting for a Quench to see if the newest V3.0 is properly working.	Done while Links where Up.	45
	=	Time Totals:	5700	6561

Inspared by Grapmy 9-Regions